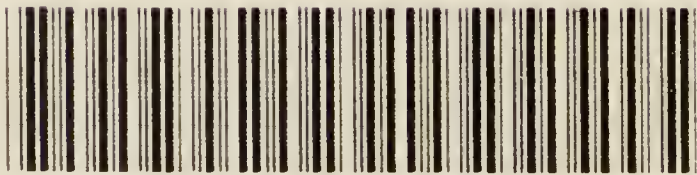


CHILDREN—THEIR CARE  
AND MANAGEMENT

E. M. BROCKBANK

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CHILDREN—THEIR CARE AND  
MANAGEMENT



# Children—Their Care and Management

By

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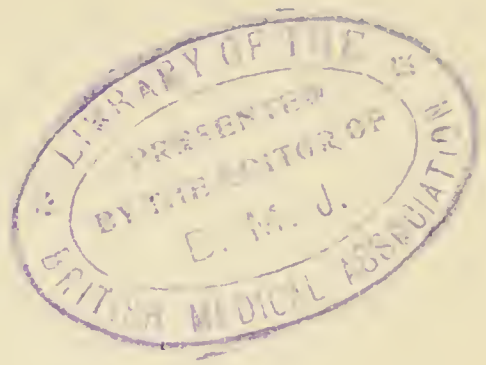
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To  
M. E. B.



## PREFACE

THE object of this book is to offer to newly qualified doctors and to mothers and nurses some practical advice on the everyday care of children at the nursery age. It contains practically no information about medicines, for this concerns the doctor only. The chapter on first aid in the nursery may prove of value, for much good can be done in emergencies during the interval between the accident and the arrival of the doctor. I have much pleasure in thanking Mr. W. A. Hooton for reading the sections on the teeth, and Dr. W. E. Fothergill for suggestions on the paragraphs about the mother and the new-born baby.

I may say in conclusion that I use the term baby and infant indiscriminately for the first year of life.

E. M. BROCKBANK.

MANCHESTER,

1912.





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## CHAPTER 1

# Natural or Breast-feeding

**Breast-feeding — Contraindications — Care of Mother's Health—Care of the Nipples—Hard Breasts—Appearance of Milk in the Breasts—Nurse to have Baby at Night—Indigestion—Management of Natural Feeding—Colostrum Milk—Duration of Meals—Position of Baby at the Breast—Getting Wind up—Time between Meals—Number of Meals at Night—Is the Baby to be wakened for a Meal ?—Foster-Mother.**

THE most natural food for a baby is, of course, its mother's milk, and provided the mother be healthy and able to, she should suckle the child for the full time of about nine months. An attempt should be made to suckle the baby for a few weeks, at any rate, because in this time the power of the stomach to digest an abnormal food becomes much greater than it is at birth. Unfortunately, it is becoming more and more the custom for mothers to have their babies brought up from the very beginning on bottle food. By suckling the baby

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many ailments which are likely to result from artificial feeding will be avoided, and some authorities maintain also that the baby will get a better start in life than if it be fed by bottle. It would be difficult to prove that a baby fed on a proper artificial food which suits it, is worse off at weaning time than a baby fed by suitable breast food ; but whilst artificial feeding may be easily and safely carried out in the better classes, it is difficult of achievement in the working classes with their poorer milk supply, and not only do artificially fed babies of poorer parents frequently suffer from diseases resulting from improper food but they also too frequently die.

**Every mother, then, should suckle her baby as long as possible** if her own health keeps good and the baby thrives. Whilst this is so, it is not always possible for a mother, however anxious and wishful she may be to nurse her baby, to provide enough, or any, milk, either at all, or after the first few weeks, and then artificial feeding must be resorted to. Something can be done, however, to help a mother to produce a supply of milk.

**Contraindications to Nursing.**—No mother should undertake to nurse her baby unless she is

in good health herself, nor should she continue to nurse it if she becomes enfeebled by doing so. No woman with consumption or a distinct tendency to it should nurse her baby. Not only will the strain of providing the milk make the disease, if already present, advance very rapidly, but it may also start it if not already present. Moreover, a woman with a consumptive tendency is not robust enough for nursing. There is the further possible risk of the baby itself becoming more predisposed to consumption by taking its mother's milk than it would be if fed on good cow's milk.

Mild acute illnesses, such as "influenza" and colds need not affect breast-feeding, though the baby will almost certainly be upset more or less by food obtained from a mother with a high temperature. It would, however, be better to give a few meals of bottle-food, if the baby will take these satisfactorily, during the worst part of the mother's ailment. More prolonged acute illnesses will require weaning to be brought about.

**Menstruation during Lactation.**—Some women begin to menstruate within a month of confinement when suckling a baby, and continue to do so regularly. Others do not begin until later, and may

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then go on regularly or with intermissions. It is widely believed that whilst lactation is going on no further pregnancy can result, and in consequence it is not uncommon to find mothers suckling a baby until the baby is well over twelve months, it may even be eighteen months old. Whilst it may be the case with some women who do not menstruate at all during lactation, lactation certainly does not prevent pregnancy if the periods occur as usual.

Menstruation itself, if normal and not disturbing to the mother, need be no bar to breast-feeding—the milk is apparently secreted as usual and has no abnormal effect on the baby.

If, however, menstruation is difficult and accompanied, as it often is, by much pain and debility, the milk secreted will almost certainly not be up to standard, and the effects will be seen on the baby, which will be restless, not comfortable after meals and probably have some digestive disturbances. When this is so it is better to give the baby bottle-meals during the worst part of the maternal disturbance, in which case the breasts would have to be relieved by massage or the breast-pump.

**Pregnancy.**—The occurrence of another preg-



nancy during lactation is a definite indication for weaning. In many women conception, from the very first, has a very great influence on their bodily functions, the most common evidence of which is nausea and vomiting, and this would react on the milk supply to its disadvantage. Moreover a pregnant woman wants all her strength for the proper nourishment of the child now developing in the womb, and she cannot provide this if she has to manufacture milk as well. Much trouble may arise over the succeeding pregnancy if she continue to suckle her baby.

### **Mother's Health before the Birth of her Baby.**

—For some months before the expected birth of the baby great care should be taken of the mother's health. She should live plainly and well, and take plenty of exercise in the open air short of tiring herself, and should rest for at least an hour in the afternoon on a bed, loosening her clothes and corsets, which should never be tight. Standing about must be avoided as much as possible, for there is a great tendency with many women to develop *varicose veins* in the legs during pregnancy, and these, if not watched carefully, may become painful and require more rest with the legs up on a couch

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than the mother ought naturally to take. Standing about is much worse for varicose veins than walking, for the movement of the muscles helps the flow of blood along the veins, whilst in standing there is the dead weight of the blood in the veins and only the force of the circulation to drive it on.

If varicose veins be present a rubber bandage or a really efficient elastic stocking should be worn.

It is also a good thing for the expectant mother to take plenty of milk; and I have known cases where a malted starch food added to the milk has enabled a mother to nurse longer than she has done with other babies, or even to nurse when she has not been able, previously, to do so at all. An expectant mother, then, who does not provide milk freely, should drink at bed-time a breakfast cup (10 oz.) of milk to which a malted food has been added, for about three months before the baby is expected, and also whilst she continues to suckle the baby.

**Mother's Health during Lactation.**—In order to be able to provide a proper supply of good milk for her baby the mother must take every possible care of her own health. She must take as much

plain, wholesome food as she can. She will, naturally, with the demands of lactation on her system, have a good appetite, and require more fluid than usual. Her diet should consist of meat, chicken, fish, eggs, butter, cream, and farinaceous foods, vegetables and milk. As constipation is very common in nursing mothers, owing to the great demand for water in the milk which leaves the contents of the lower bowel too dry for its normal movements, the diet should be ordered with a view to correcting this as much as possible. Porridge, stewed prunes, baked apples, brown bread, and vegetables, all of which leave a good deal of undigested material to stimulate the sluggish bowel, should be partaken of daily. Cream, without any preservatives in it, and fresh butter are also helpful. At the same time, any foods which are likely to produce flatulence in the mother must be avoided, for though it seems unlikely to happen, it is very common to find that a baby will be troubled with wind when certain foods are taken by the mother. Thus cabbage, cauliflower and potatoes are not well borne by nursing mothers. Too much tea, also, apparently reacts on the baby. Then, again, certain strongly flavoured vegetables, such as turnips, onions,



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asparagus will flavour the milk, just as certain herbs do that of cows.

Massage in the left groin in the way recommended later for constipation in babies may also be very helpful.

Acids, such as lemons and vinegar, are also not good for nursing mothers to take.

Too much tea or coffee is also bad, but large quantities of the former are consumed by mothers of the working classes, and the effect can be seen on the badly-nourished baby. There is no reason why tea should not be taken at the usual meals of breakfast and tea in amount equal to about two or three small cups (10 to 15 oz.) with plenty of milk in it. But as a maker of milk, tea, itself, is useless. Gruel or cocoa made with milk should be taken to the extent of a pint a day at least, and, as previously mentioned, a pint of milk with the proper amount of malted starch in has enabled mothers, in my experience, to nurse when they have not been able to do so before and without it. This is an excellent food for the mother to have by her for the night. It can be kept warm, but not hot, in a patent bottle, and this modern invention is a much better device than keeping any milk

warm over a flame, the prolonged heat, slight though it be, often imparting to the milk an unpleasant taste.

Alcohol, in any form, is undesirable for a nursing mother, and beer, stout, wines or spirits should be avoided. Whilst they may do no harm when taken in strict moderation by certain mothers as aids to digestion, they do not of themselves produce milk, and when taken in excess will do a great deal of harm to the baby. In mothers who drink a lot of beer the baby not uncommonly breaks out into a general rash. The risk of the possible development of a habit must always be borne in mind when ordering alcohol.

As much exercise should be taken as the mother can manage without being tired, and, on the other hand, at least one hour's complete rest, lying down after the midday meal with the clothes well loosened, is most important.

The treatment of *constipation* in a nursing mother by drugs is often a difficult matter, for some of the active principles of most, if not all, aperients pass through into the milk and act on the baby. Thus a baby will often be troubled with wind and colic after its mother has taken aperient doses of

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compound liquorice powder, cascara, aloes, senna, castor oil, especially if the medicine does not act on the mother and remains in the intestines whence it can be absorbed. Different drugs affect people in different ways, and with care and patience, however, a medicine that suits each mother will be hit upon.

It may be helpful to aid the sluggish lower bowel of the mother by a simple enema as well as by giving an aperient some hours previously. Constipation must be carefully treated in the mother, for with undue retention of waste products of digestion, undesirable materials are absorbed into her blood, and get into the milk.

**Care of the Nipples.**—For some three months or more before the baby is born the nipples should be prepared for the somewhat severe usage they will receive when being sucked. A new-born baby bites hard on a nipple with its gums, and unless this be prepared previously it will become sore and very painful. The object of previous preparation is to prevent the nipples from cracking when they are being used by the baby, and there are two methods by which this may be helped. That more commonly followed is to harden the skin of the nipple, and the other is to keep it soft.



A good plan to *harden* the nipples is to paint them with a saturated solution of alum in rectified spirit, or eau de Cologne, once daily, for two months before the baby is born. The solution can be kept in a bottle and dabbed on with a piece of cotton wool. After breast-feeding is begun this hardening application must be continued. After the meal the nipple must be washed with a saturated solution of boric acid in water, and then hazeline cream may be applied instead of the alum, the nipple immediately previous to a meal being washed with water so that the taste of the alum or grease is removed. By such constant care as this the nipples stand the bitings they get very well, but if it be neglected cracks or little sores will develop and then feeding is a very painful process. Even with such care some mothers find the first bite of the baby rather trying, but the smart or pain soon passes off when once a hold is obtained. In a few instances, however, the nipple may be too painful and tender and weaning may be necessary.

Instead of *hardening* the nipples many doctors think it best to keep the nipple soft by the application of some greasy substance, such as hazeline cream or vaseline. They argue that the soft skin



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of a nipple is less liable to crack than when the skin is hardened, and, further, that if it does crack it heals quicker.

For cracks or sores the application of friars balsam after each meal may do much good and tend to heal, but if used the nipple must be well washed to remove the flavour of the balsam before feeding time.

*Cracked and sore nipples* must be treated carefully with the boric acid lotion, because if the sores be allowed to get dirty absorption of poisons into the blood is liable to occur with consequent abscess-formation in lumpy breasts.

Glycerine and borax may be used with advantage, some being applied on lint which should be left on the nipple.

A *nipple-shield* should also be tried when there are cracks. Before this is applied it should be filled with hot water, which should then be emptied out and the shield put, whilst hot, on the nipple. In this way a vacuum is caused in the shield, the milk will run into it and the baby will get some as soon as it sucks. If this be not done and the baby gets no milk at first it will become discouraged and will not persevere until it gets the milk by its

own efforts. Lighted spirits of wine should never be used for this purpose. Apart from tasting the milk, there is the risk of fire.

**Depressed Nipples** may make breast-feeding difficult or altogether impossible. If a baby cannot easily take a proper hold of the nipple it will get fussy and cross and soon cease to try. With unduly short nipples the breast should be squeezed gently near the base of the nipple with the mother's or nurse's fingers so as to make the nipple as prominent as possible. If the baby can get hold of the short nipple with its jaws and there is a good supply of milk it will overcome its difficulties and manage to get its food. But if this cannot be brought about it may be necessary to try a nipple-shield in the manner just described.

It may help matters, if the shortness of the nipple be recognized before the baby is born, to gently pull or stretch it with the finger or thumb several times a day. No pain must be caused by this traction, and no force should be used. On no account must sufficient force be applied to give any pain. A depressed nipple may be caused by pressure from corsets on the breast, so this possible source of trouble must be guarded against.

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**Hard Breasts.**—During ordinary healthy lactation period the breasts may become hard, lumpy and painful through some of the small ducts becoming obstructed by thick milk or the glandular tissue not having been emptied sufficiently of its milk. If such a condition be not attended to, an abscess may result, especially when there are raw surfaces on the nipples, but with ordinary care and a little knowledge of how to relieve a painful breast this should never occur.

**Massage or Rubbing of Breasts.**—The pain and hardness of a breast can be relieved by very gentle rubbing. But before this is done the breasts should be fomented for a quarter of an hour by means of flannel wrung out in hot water. The flannel is circular, and double, tacked together, with a hole for the nipple. Over the flannel should be put a piece of jaconet, or pink mackintosh cloth. The way to rub a breast is for the nurse to lubricate her hands well with warm sweet or olive oil and to rub the breasts with a circular to and fro movement, using both hands to cover as much of the breast as possible. The rubbing must be very gentle as the breast is very tender, and it should be applied more, at the beginning, to that part of the breast



near the nipple. The object of this is to gently squeeze out first of all the milk or obstruction in the ducts nearest to the nipple, and, to this end, in addition to the circular movements, the hands should travel upwards towards the nipple. Even with the gentlest rubbing in this manner milk will, in the course of five or ten minutes, begin to exude from some of the many duct orifices in the nipple. At first it is thick and creamy, but later it becomes thin and more watery. When that portion of the breast near the nipple has become soft and not tender, the rubbing movements must be extended further away, and be made in the same manner, with to and fro circular movements, working upwards towards the nipple. In a short time, if the ducts near the nipple have been emptied as described, milk will flow very freely from the breast, often in jets, and with the escape of it the tender, lumpy breast will become softer and easier. The milk flows so freely that it is necessary to have a towel or diaper in a convenient position to absorb it.

Breasts may have to be rubbed in the same manner when a child is being weaned.

The *breast-pump* is often used to relieve an overloaded breast, but it is not a pleasant operation

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for the mother, there being a good deal of pain caused by it, especially if the breast be lumpy. If used it should only be after fomenting the breast as described previously and also after preliminary massage. Then it is less painful.

**Appearance of Milk in the Breasts.**—The day on which milk comes freely from the breasts varies with different women, but, as a rule, it is generally in the third twenty-four hours after birth. Before this time what the baby gets is the colostrum only, a thick yellow secretion, in limited amount.

The milk ought to come without any temperature or fever. If there is any definite amount of fever—more than a degree above the normal—the doctor's attention must be drawn to it. There may be a slight rise of temperature if the breasts fill rather quickly and become hard and knotty, but it will pass off if they be partially relieved by the baby or massaged if necessary. If the painful breasts be not relieved an abscess is very likely to form, especially if there be any crack or sore on the nipple.

**Nurse to have the Baby at Night.**—A most important requirement in the successful natural feeding of a baby is that the mother should get

as much sleep as possible, especially at night. This is best secured by allowing a trustworthy nurse to have the care of the baby at night after the first month, taking it in to the mother for its necessary meals. A baby frequently is restless for an hour or more in the night when it is not a meal time, and if the mother has to wake up to look after it then, in addition to waking for feeding time and changing diapers, she may get quite an insufficient amount of sleep, and this will certainly react on the quality of the milk supplied and so be harmful to the baby. There is an opportunity here for a vicious circle—disturbed nights for the mother, poor milk, unsatisfied and wakeful baby, less rest for the mother and so on. The importance of a good night's sleep for the nursing mother is so great, that it is not at all a bad plan, when there is a trustworthy nurse to look after the baby, to give it one meal in the night of artificial food from the beginning of the second month. Some nurses give a drink of warm water only, then, and find the baby is satisfied and puts on weight properly. This is good for constipation. This bottle-meal given by the nurse is especially indicated if the mother has not too plentiful a supply of milk, and if she is



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not good at dropping off to sleep at once after being awakened by the feeding. If a mother has plenty of milk and can get to sleep soon after being disturbed, and if the baby itself thrives well, there is no harm in a mother taking care of the baby at night, as indeed probably the majority of mothers actually do. When a mother has the baby at night it is of the utmost importance for her to get at least one hour's rest, and sleep if possible, in the afternoon.

It is a good plan to let the mother and the nurse have the baby alternately for three consecutive nights, as by this means lost sleep may be made up for both mother and nurse. The nurse would take the baby in to the mother for the meals.

**The Breast Milk may not be Suited to the Baby.**—If a baby is not thriving there must, of course, be something wrong with its food or with its powers of digestion.

Insufficiency of food, or indigestion, will make a baby fretful and wakeful ; and will give it colic and cause it to pass unnatural motions ; and to lose weight or not gain any. The first thing in such a case is to see whether the mother is taking



a proper amount of suitable milk-forming foods herself. These have been already referred to.

Deficient food, especially protein or flesh foods, is very common in the poorer classes from which Hospital patients are drawn, the money available being insufficient for its purchase, and the mother is forced back on the harmful dietary of tea and bread and butter. If such a mother can be helped with food for herself, meat once a day and plenty of good milk with which to make gruel, the baby will begin to thrive and develop as it should do. In the better classes, the want of meat food for the mother is rarely the cause of a milk supply for the infant which is deficient in quantity or quality. It is much more likely that the milk is too rich, or that the mother cannot make enough milk, however correctly she may be being fed. If the mother is making milk with difficulty it is worth while, as mentioned before, to try the effect on her of some malted food in milk taken regularly.

When a well-to-do mother is living on too rich a diet she will secrete too rich a milk, and this may cause digestive disturbances in her baby which generally result in vomiting of partially digested food and in flatulence and colic, with the passage

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of sour-smelling, large stools containing undigested milk and fat. The remedy for such a condition is not weaning, but the diminution of the mother's intake of proteins and milk, the prohibition of all alcohol and the adoption of more active habits of life. Another mother may be giving her infant a milk which contains too much lactose, and this will produce an overfat and flabby baby. In this case she should eat less starchy and sugar foods herself.

**Management of Natural Feeding.**—For the first day or two after birth a healthy baby requires, or asks for, very little food. If it is to be fed naturally it should, however, be put to the breast after the mother has recovered properly from the exhaustion of the labour. A healthy mother has, as a rule, recovered sufficiently from the effects of an ordinary labour, especially when it is not the first, to have the baby given to her in four hours. When this is so she should be allowed to have it then, because the act of sucking and the feeling of having the baby at the breast at last is the best sedative after labour and will probably induce sleep. The act of sucking which a baby instinctively carries out also helps to bring on the secretion of milk by the breast. But there is no hurry to put the baby

to the breast, if there are reasons against it, for six or twelve hours, as it will probably sleep quietly for hours, or if it cries much it may be given a little warm water which has been previously boiled, with or without a little sugar of milk in it. During the first day after labour the mother should rest and sleep as much as she can, and it will be quite enough to put the baby to the breast three or four times in these twenty-four hours. Next day it can be put to the breast twice or thrice more. It will get very little food from its mother for the first two days, and what it does get is not proper milk but that known as "**colostrum**," which contains more proteins than normal milk. This colostrum acts as an aperient and helps to clear out from the bowels the dark olive-green, tarry, biliary material known as meconium. If the mother is not to suckle the child it will probably be necessary to give something to clear out this meconium. A very effective thing is a small teaspoonful of best olive oil with a little warm water. This acts very well and does not bind up afterwards like castor oil.

Sometimes colostrum is distasteful to the baby, as it often contains blood and some matter. The baby will then not suck until the colostrum has



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been drawn off with the breast-pump, and it should not be put to the breast until this has been done.

After the second day the mother's milk begins to flow properly and the baby can then be put to the breast at the proper intervals of two hours in the daytime and about three in the night for meals.

During the two days in which the baby is getting very little food from its mother, if it cries it should be given, occasionally, a little water which has been boiled, with sugar of milk (one teaspoonful of sugar of milk to about twenty of water), and this will keep it satisfied until the breast milk flows properly. There is no fear of the baby taking any harm by not getting milk in this time, and it is not necessary or wise that diluted cow's milk should be given to it then.

**Time occupied by a Meal.**—A baby will take about ten minutes over its meals in the first few weeks of life. It sucks very vigorously during the first part of a meal, but as the act of sucking makes it, and also the mother, as a matter of fact, drowsy, it may have to be wakened up and encouraged to finish its meal properly. The result of its first vigorous sucking, especially when the nipples are short, is often that it swallows a fair amount

of wind as well. This is more likely to happen if the milk runs from the breast freely, in which case the baby often splutters and chokes over its feeding. It will also get more wind if not put in a proper position at the breast.

As a baby gets older it takes longer over a meal as it has more to swallow. It is, itself, the best judge of how much to take, especially if it is lifted half way through a meal to get up the wind. It cannot take more than its stomach will hold, and will not stop before its hunger is satisfied if kept to its business, provided that there is milk enough in the breast for this.

**Position of Baby at the Breast.**—To enable a baby to get its meal from a breast properly it is of the utmost importance that it be given to, and held by, the mother in such a way that the nipple passes easily and well into the mouth without being pulled or bent from its natural direction. If the child is put at an angle it will not be able to grip the nipple properly and prevent air entering at the angles of its mouth. A mother will soon learn when the baby is in a proper position, and it is generally necessary, both when she is feeding it in her bed or in a chair, to have the help of

a pillow under the arm which is holding the baby.

**Meals at Night.**—Whenever a mother suckles her baby at night she should sit up in bed, and not feed it whilst lying down, because there is a very great risk of her going to sleep during the meal and not waking when the baby has finished. The baby will be asleep also and lying with its face against the mother will not be able to breathe properly, not to mention the possibility of its being overlain.

**Getting Wind up.**—With infants at the breast it is highly advisable to stop half way through a meal and “get the wind up.” This means sitting the baby up, supporting its back properly of course, and when this is done one or two large mouthfuls of wind will probably come up, often with a force which suggests astonishingly powerful contractions of the stomach. The child will now resume its meal and be able to take a proper supply of milk, ending with a stomach full of food and not half food and half wind. It is good to repeat the manoeuvre at the end of the meal before putting the child to lie down. If the wind be got up regularly in this way the child will sleep much more quietly in its cot than if it be allowed to drink its



supposed full amount and then be immediately put in its cot. Not only will the wind in the stomach make the child uncomfortable and restless, but it will pass on into the bowels and create further disturbances, with consequent restlessness and disturbed sleep, both to child and, at night, to the mother or nurse. The wind, as a rule, will eructate within a few seconds or half a minute after holding the baby in the more or less erect posture; but it may not come up so easily and many good nurses will rub the child's back over the lower ribs and small of the back with, they maintain, good results. It is quite likely that this massage of the back will help the stomach to expel its wind, for the pressure of the hand on the compressible body of the child must act on the stomach and aid its attempts to expel the wind, and the soothing effects of massage may reflexly facilitate the relaxation of the entrance to the stomach. (*See "Colic."*)

A couple of teaspoonfuls of warm water given before each meal may help to get up the wind.

Another important reason for getting up the wind is that, unless the child can drink its proper amount of milk, it will not go its proper time between meals. It cannot live on wind, of course, so when



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the three-quarters meal of milk is digested the baby wakes up and begins to ask for more food. The mother, as likely as not, has been advised to keep to regular intervals of feeding and thinks that there is no real need for food, so the baby is allowed to cry as a little wholesome discipline. Probably by the time its next meal really is due it has been crying a good deal and will not digest it well.

Wind should also be got up after a bottle-meal and during this if necessary. It is not uncommon to find that a baby is apparently satisfied before it has taken its usual amount from a bottle. If room is made in the stomach by getting the wind up, then the baby will finish off its proper allowance. If the wind be not got up in this way before the stomach is full, it may come up with a rush at the end of a meal and bring with it a good deal of the meal. This is the main cause of "Possetting."

**The length of time between meals** for new-born babies will depend somewhat on the size of the baby and the amount of milk ready for it. As a rule, however, in the first two weeks of life a baby must be fed every two hours during the daytime, the time between meals increasing as it gets able

to take more at a meal. But, as already stated, this is not a hard and fast rule—one big baby to my knowledge going three hours between its meals from the very first. As a matter of fact, no hard and fast rule can be laid down for all babies ; variations must be made according to each baby's peculiarities.

It is a good plan, however, to try and get all babies at the end of the first month to go for three hours between meals, and they will do this if the milk is good. With shorter intervals it is very probable that all the food will not have left the stomach when the next meal is due, and this may be seen by the baby eructating wind and curd when it is lifted up for its meal. Whenever this is noticed a longer interval should be allowed between meals. Too frequent feeding is one cause of indigestion and restlessness. The weight and condition of the flesh of the baby will show if it is being fed often enough.

**Number of Meals at Night.**—It is of the greatest importance to accustom a baby, whether on the breast or bottle, to go longer at night between meals than it does in the daytime, and there is a natural tendency to do this. It is especially important for a mother who is suckling her baby,

and for any one who has to give bottle-food in the night, to get as much sleep as possible. Disturbed nights will react on the health of a nursing mother, and therefore on her powers of providing plenty of milk for the baby, and on the health and patience of a nurse.

Most babies will go longer at night between meals than in the daytime, but the length of time, whether three, four or five hours instead of two hours, varies with different babies. A baby should not be wakened in the night for a meal but should be allowed to sleep as long as it will. But it is essential that the baby should be getting enough satisfying food throughout the day, otherwise it will certainly be restless at night and wake up too frequently for its meals. So, if a baby will not go longer at night between meals than in the daytime the quality and quantity of the food it is receiving must be inquired into carefully.

If the restlessness is only occasional it may be due to wind which has not been "got up" properly in the way already described. If it recurs night after night the food is either insufficient or unsuitable.

When insufficient food is the cause the baby



will probably not go its proper time in the day without crying, but it may be apparently all right in the day and yet wake up too often and remain awake for hours in the night, probably crying. Its motions will contain properly digested food.

With unsuitable food there will be undigested curd in the motions, with colic and looseness of the bowels. The internal discomfort caused by this indigestion will make the baby fretful and probably make the mother think it is hungry before the proper meal time. In this case it will probably be fed too often, more food being taken into the stomach before the previous meal has left it. This aggravates the state of affairs and a vicious circle is set up.

When insufficient food is the cause of the wakefulness, the mother must supplement her own milk with one or more meals of cow's milk, in the daytime preferably, because, if this relieves the wakefulness, it is easier for a mother who is feeding a baby on the breast to put it to the breast at night than to get up and prepare a bottle-meal. When a nurse is looking after the baby the artificial meals can be given at night, and this has the double result of allowing the mother to sleep properly at night

and to be in a better condition to provide more milk herself in the daytime.

Should a baby be wakened for its meal in the daytime if asleep when it is due ? This is a question which will be answered differently by different people. In my opinion if a baby is on three hourly intervals it ought to be wakened when its next meal is due, because it will probably have digested the previous meal by then. If a child is on a two and a half hourly interval I do not think it wise to wake it until about three hours have elapsed since the last meal, *provided, always, that the baby sleeps well at night*, for this is of first importance for the mother's sake. If the milk is poor the baby will wake up soon enough if there is a demand on the part of the body builders for more food where-with to make cells and tissues, and when it does wake up and asks for food, we may be sure that the stomach is empty and in better condition to receive and digest its meal than if it be wakened up and fed when half asleep. Food digests more slowly in the stomach of a sleeping baby or adult than in one awake, and whilst a wide-awake infant may be quite ready for its meal at the proper interval, one asleep will naturally be able to wait longer. That

this is true is seen by the long time a healthy baby, on food which is suiting it, will go between meals in the night time. It may, however, sometimes be wise if a meal is due just about the mother's bed-time to wake the baby up for it then, so as not to let the mother be awakened in half an hour or an hour. If the baby digests a meal properly when given in this way and sleeps well afterwards it is best to adopt this plan.

Besides the state of the motions, the weight of the baby is a good indication as to whether it is being fed and managed properly.

**Fresh air** in the lying-in room is most desirable. The window should be opened more or less widely according to the weather, the mother and baby being, of course, properly protected from all draughts.

**Foster-Mother.**—At one time, feeding by foster-mothers was more commonly adopted than it is now, and novels of the Victorian age frequently have foster-brothers as hero and devoted follower.

Under good conditions it is the next best method to mother's feeding, and these may obtain still in the country. A foster-mother has saved many a baby from death.

In the towns a good foster-mother is next to an



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impossibility, and I have myself never heard of one having been employed.

Any woman who nurses as a foster-mother must be unquestionably healthy and her own, and her family history, must be known. These are difficult conditions in towns, but not necessarily so in the country where cottagers have been attached to the family at the Hall for generations. If a foster-mother is used her health must be looked after as carefully as that of a suckling mother, and especially should she not be allowed too much beer or stout. There is a tendency to take such means of forcing a good supply of milk if a woman is suckling her own and another baby. This is what is usually the case in fostering ; it rarely happens that one woman loses her own baby coincidently with another woman wanting a foster-mother.

## CHAPTER II

# Artificial Feeding with Cow's Milk

Cow's Milk—See that it is Good—Care of the Milk—Unboiled Milk—Differences between Human and Cow's Milk—Sugar—Cream—Amount of Food to Give—Strength of Food—Diluting Fluids—Barley Water—Whey—Lime Water—Citrate of Soda—Summary—Water for Babies—Temperature of Food—Importance of Correct Measures—Feeding-bottle—Cleaning Bottles—Amount and Composition of Feeds—Additional Food at Weaning—Curd Indigestion—Peptonising Milk.

ASSUMING that artificial feeding has to be adopted the best form of it is fresh cow's milk very carefully modified, according to the age of the infant, to resemble, as nearly as possible, the breast milk.

**Cow's Milk.**—It is of the utmost importance to get milk from a reliable farmer who takes care to keep his cows healthy, and the milk clean. Most of the dirt which is found in the milk so often is dry manure which has been knocked off the cow's side into the cans by the milker's head. It is the safest

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plan to ask the Medical Officer of Health for the district if the farmer it is intended to deal with is one he can recommend. It is also a good plan to pay a personal visit to the farm, and the points that should be looked at, chiefly, are the cleanliness of the shippons, cows and farm hands. Also the distance of the manure heap from where the milk is handled, because milk exposed to any animal smell readily absorbs the objectionable odours and tastes bad. The cleanliness of the farmyard round which the shippons are built is often a good criterion of the value of the milk.

Wherever possible milk should be obtained from a farmer who has only cows which are examined regularly with the tuberculin test, and it is better for milk to come from young cows, for the older they get the more liable are they to tuberculosis.

It is much safer to have the milk from the mixed herd and not from a single cow unless the latter has been tested for tubercle and is known to be healthy. Milk from one cow which has tuberculosis is much more dangerous than milk from cows of a mixed herd which have not been tested for tubercle, because probably only some will be tuberculous, and the bacilli will be less numerous per pint of milk.

The milk of a single cow, also, may vary considerably from day to day in its constituents, especially in the cream content.

If any milk smells or tastes different to what pure fresh milk ought to, inquiry must be made at once into the cause of the impurity; whether the cows have been fed on turnips, too much moist brewer's grain or preserved silo-grass; or whether the milk is exposed to odours in the farmyard. No other animal should be kept in the same shed as cows. This particularly applies to horses and pigs. The distinctive odours present where hard-working horses are stabled are readily taken up by milk, and pigs are extremely difficult to keep clean.

Milk, wherever it is kept, in the farm, shop or house, should be covered over so that it cannot absorb objectionable odours or materials from the air. If any dirt is seen in the bottom of the milk jugs the farmer should be spoken to strongly on the subject.

The milk must be fresh and free from all preservatives, which are more harmful to babies and children than they are to adults. They not only add a foreign body or chemical to the milk, but this chemical, by preventing the growth of souring organisms,



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allows the milk to be kept for too long a time and to become stale before it is consumed. One preservative, formic aldehyde, actually hinders digestion by making the curd leathery and tough.

The richness of the milk in cream is also important, and a danger arises from this if the special cow reserved for the baby is a Jersey—a breed which gives a considerably higher percentage of cream than the ordinary cow. If the milk is known to be a rich one it should not be allowed to stand for creaming so long as an average milk, and the upper half or two-thirds should be used. The addition of cream will also be unnecessary.

The mixed milk of average cows will contain about 3 to 4 per cent. of fat—as cream when quite fresh. After standing for a time the fat tends to rise towards the surface of the milk in the vessel and it rises quicker if the milk be not too cold. Thus good milk delivered cold after ice storage is not liked by many people because they think it gives no cream. If, however, it be allowed to warm up to the temperature of a room (55° F.) it will cream quite well. After standing four hours the upper half of a 3·5 per cent. cream milk will contain about 5 per cent. of cream and the upper third 6·42

per cent. cream. After standing all night the upper half will contain 5·8 per cent. and the upper third 7·7 per cent. The upper quarter is richer still.

Town milk is generally poorer and ought to stand longer before use than country milk.

AVERAGE PERCENTAGE OF FAT IN DIFFERENT PORTIONS OF AVERAGE COW'S MILK (3·5 PER CENT. FAT), AFTER STANDING UNDISTURBED AT 55° F. FOR VARYING LENGTHS OF TIME.

	Four Hours. Per Cent. Fat.	Six Hours	Overnight or Twelve Hours.
Upper two-thirds . . . .	4·42	4·54	4·8
Lower two-thirds . . . .	1·70	1·51	0·96
Upper half . . . . .	5·08	5·48	5·88
Lower half . . . . .	1·90	1·57	1·15
Upper third . . . . .	6·42	6·92	7·70
Lower two-thirds . . . .	2·02	1·75	1·37
Upper Quarter. . . . .	7·90	9·03	10·18
Lower three-quarters . . .	2	1·68	1·30

**Care of the Milk.**—It is a good plan to keep the milk after it has been scalded, in a jug with a lid and perforated spout; this keeps dust, flies and smells from getting in. In summer, a small ice chest in a suitable place, in or near the nursery, is of very great help in keeping the food and milk fresh. In colder weather the scalded milk must

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be kept in as cool a place as there is in, or near, the nursery.

Milk which has not been boiled should be kept in the cellar and covered over. *It must never be kept in a scullery* because of the objectionable smells from the slopstone present there.

*Flies* especially should not be allowed to get into milk, as they in all probability carry disease germs, especially those causing diarrhœa.

If an ice chest is impossible, the jugs with the milk in should stand in a bowl of cold water and be covered with a wet glass-cloth. It should not be kept in a stuffy, warm room—the landing is often the better place.

In some houses there may be a spare window in the nursery which gets no sun and which can have an outside cupboard or small zinc food-safe, made rainproof but well ventilated, fitted on. Such a device is very useful.

**Ice Chest.**—If an ice chest be used it must be kept sweet and clean, and this can be done by wiping it out with dilute Condyl's fluid regularly every two or three days ; the blanket, also, which is wrapped round the ice should be wrung out in the same. It is very quickly done, but unless it be done the chest



will smell musty and stale. It is better to have two pieces of blanket or flannel in use for the ice, so that one piece can be hung in the open air after being wrung out in the Condyl's fluid.

**Unboiled Cow's Milk** is more wholesome for infants than scalded, sterilized or pasteurized milk, but there is a distinct risk of the infant acquiring certain illnesses such as typhoid and scarlet fevers, diphtheria and summer diarrhoea from the use of unboiled milk. There is a difference of opinion as to whether tuberculosis can be acquired by a baby from the milk, but as there is a probability of this it is best to guard against it. Scalding the milk kills all dangerous germs, and does no harm to the nutritive value of the milk as a food except by coagulating the lactalbumen which separates as the skin when milk cools. The danger is that scurvy may be produced by the heat killing, or diminishing materially, the scurvy-preventing element in milk, but in actual practice this so very rarely occurs that the risk may be ignored. If it can be known for certain that the cows are quite free from tuberculosis, and that there is no risk of contamination of the milk with the other disease-producing organisms, unboiled cow's milk may be used with



advantage, but the conditions are difficult to guarantee and it is therefore safest as a routine plan to scald all milk before giving it to a baby.

The difference between human and cow's milk is considerable, both from a qualitative and a quantitative point of view, and makes it difficult to imitate the former with the latter. The chief constituents of both, apart from the water and salts which they contain in practically similar quantities, are the proteins, the fat and the sugar. In human milk there is, or ought to be, about 2 per cent. of proteins, 4 of fat, and 6 of sugar, whereas in cow's milk there is about 4 per cent. of all these constituents. There is, however, a further and most important difference between the proteins in the milks. Of these, there are two, one the ordinary curd-forming material, or caseinogen, and the other lactalbumen, which does not curd in the stomach and which is very easily digested and, therefore, very nourishing. There are four times the amount of lactalbumen in the proteins of human milk as in those of cow's milk, weight for weight of the proteins. Thus of the 2 per cent. proteins in human milk lactalbumen forms 1·4 per cent. and caseinogen ·6, whilst in the 4 per cent. of proteins

in cow's milk lactalbumen only forms .75 per cent. and caseinogen 3.25 per cent. This is a most important difference between the two milks which can be seen to the naked eye if some acid or rennet be added to some human milk and to cow's milk diluted with an equal part of water to reduce its proteins to the same percentage as those in human milk. In the former case there is no curd to be seen at all, whilst in the latter quite thick masses separate out. Therefore, human milk in an infant's stomach forms very fine flocculent curds, whilst diluted cow's milk coagulates in much heavier masses, and the former are much more easily attacked by the digestive juices than the latter.

Lactalbumen coagulates on heating cow's milk to 160° F.

For the purposes of this book, after pointing out the important difference between the proteins of human and cow's milk, we need only refer to the proteins as a whole.

If we dilute cow's milk with an equal quantity of water, it will be seen that although we get the curd material nearly in right amount we diminish the fat to half, and the sugar to one-third, of the proper amounts. If we add more water the dis-

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proportion of the fat and sugar is so much greater.

For new-born babies in the first week it is necessary to add three or four parts of water to one of milk, and in this form we have a very unsatisfactory mixture, greatly deficient in fat and sugar, which is not much better when a lesser dilution is used.

It is therefore necessary in making an artificial food for a baby to add some sugar and probably some cream before its nourishing value is sufficient.

	Approximate Percentages.		
	Protein.	Fat.	Sugar.
Cow's milk . . . . .	4	4	4
Human milk . . . . .	2	4	6
Equal parts of cow's milk and water . . . . .	2	2	2
One of cow's milk to two of water. . . . .	1·3	1·3	1·3

**The strength in curd-forming materials** of an artificial food ought to vary with the age of a baby, this being greater as the baby gets older.

For a baby in its first two weeks of life the milk should be taken from the upper quarter of the vessel in which it has stood for about four hours

in a cool place. This will contain about 8 per cent. of fat (*see* p. 37), and when diluted with three times its bulk of water (or four times in the first week) will produce a milk with enough protein and fat for the baby. It will be deficient in sugar, however, and of this half an ounce, or a little less than a level tablespoonful, should be added to fifteen ounces of the food, or, if only half this amount of food be prepared at a time, a little less than a level dessert-spoonful of sugar of milk.

At the end of four weeks the milk may be diluted with twice its bulk of water only.

After two months the milk and water may be nearly equal in amount ; and in another month half and half.

From the fourth month the milk must gradually displace the water, varying from two parts milk to one of water until there is only one-quarter, one-sixth or one-eighth part of water added to the milk. This dilution should be made in teaspoonful stages.

The exact dilution by water must depend a great deal on the condition of the infant, a big child for its age taking a stronger mixture than a smaller baby. The condition of the motions will also show if the milk is being digested.



The amount of sugar of milk added after the first few weeks need not vary much, a level tea-spoonful for each meal being about enough.

**Sugar.**—The best form of sugar with which to sweeten a baby's food is sugar of milk, or lactose. This has not the sweet flavour of ordinary household or cane sugar but it is the form of sugar which appears in milk and is, therefore, more wholesome for babies. It costs about one shilling a pound and is therefore more expensive than ordinary sugar. The best quality should be used, and it must be in powder form.

If expense is important cane sugar can be used without any harm, but only enough of it to give the food a slightly sweet flavour. About one piece of lump sugar for each bottle is enough. Hundreds of thousands of babies have been successfully reared on milk sweetened with ordinary sugar, sugar of milk being a comparatively modern refinement of artificial feeding.

If the baby is constipated the use of brown moist sugar instead of white sugar will sometimes bring about a better action of the bowels. Another substitute for, or addition to, white sugar in constipation is malt extract, of which a small afternoon tea-

spoonful, or large saltspoonful, may be put into each bottle of food.

**Cream.**—If the baby is not putting on weight sufficiently and there is reason to believe that the milk is not rich enough, a teaspoonful of cream skimmed off the surface of the milk may be added to each feed; but if the upper third or quarter of the milk be taken and diluted, there will probably be plenty of fat in the mixture. The addition of much cream sometimes causes fat globules to form in the warm food and often makes a baby sick.

Too much fat in artificial food is, however, more frequently than is generally supposed to be the case, the cause of digestive troubles in infants, causing vomiting, diarrhœa and impaired development. It may, by upsetting the digestion and hindering in consequence the absorption of fat, be the cause of rickets (q.v.) which is due to imperfect fat assimilation. Three per cent. of cream in the total bottle contents is quite enough for the healthy baby.

Cream must, therefore, be added cautiously, and on no account should shop cream from bottles or pots be used, as this generally contains preservatives which do no good to a baby. Not only are the preservatives objectionable in themselves but

they allow cream to go stale without being actually sour, and stale cream added to a baby's food will spoil it. Shop cream is also sometimes thickened with flour or magnesia.

Furthermore, shop or "separator" cream contains thirty or forty per cent. of fat, and this fact must be borne in mind in calculating percentages if such cream be added to artificial food.

**The Amount of Food to give a Baby.**—It is near enough as a basis to work on, and simple to remember, to take the baby's age in completed months as ounces and add one to this to get the amount of food for each meal. But it must be remembered *that boy babies take more food than girls.*

Thus a baby a week old will take one ounce, or two tablespoonfuls of food. In the first few days it will not take as much as this.

At the end of one month, two ounces, or four tablespoonfuls, gradually increased until at the end of four months five ounces or ten tablespoonfuls of food may be given.

In the sixth, seventh and eighth months five to seven ounces will be about enough as the food is so much stronger in milk.



After the end of the seventh month eight ounces may be taken by some babies, and this will probably be enough for the rest of bottle days because the food is getting more and more to consist of milk. Feeding-bottles, as a rule, only hold eight ounces.

The increase in amount of food given will not be made suddenly at the end of a month, but more gradually as the growing baby seems to require a little more. It is a safe plan to add the milk by extra teaspoonfuls. If a larger addition be made at once the food may cause discomfort.

A small baby may not finish its bottle and then less should be given at a time. On the other hand a bigger baby may not be satisfied with the above allowances, and more food should be given. In the latter case gain in weight of the child, *provided the flesh is firm and not flabby*, and proper sleep, will be good indications as to its receiving enough food. When more food is required it is better to cautiously strengthen the milk portion of the feed and not to give more of the usual mixture. A baby's stomach has a limited capacity, and if more food than it can contain is put into it possetting will probably result.

**Strength of Food.**—For the first two days of life a little water with sugar of milk in it will pro-



bably be all that is necessary. On the third day cow's milk should be given diluted with four times its bulk of water. This is quite strong enough to begin with ; after a week three parts only of water need be added and this strength can be used for the next two or three weeks. The mixture can then be slightly strengthened as to its milk, so that, at the end of the first month, the baby is taking about one part of milk to two of water ; and in another month it will be able to take the milk with an equal amount of water. The amount of water added should continue to be reduced gradually, a teaspoonful at a time, until at the beginning of the fifth month the bottle contains twice as much milk as water. In the succeeding months three, four and five parts of milk to one part of water are used, and five parts of milk to one of water make a strong enough mixture for the rest of bottle feeding days.

It is not good to give undiluted milk to any baby of any age. A little water makes cow's milk lighter and more digestible for any child.

At the same time, mention should be made of the fact that babies are now fed with complete success from the first in many Maternity Hospitals on *undiluted* cow's milk. This method is not to be

recommended for general use, but it might be tried if others fail. The amount of undiluted milk given would only equal that of the milk in the mixed bottle.

The length of the intervals between meals should be the same as that in breast-fed babies (see p. 26).

## AVERAGE ARTIFICIAL FEEDING.

Age.	Quantity.	Intervals.	Strength of Food.
1st day	2 teaspoonfuls	8 hours	1 teaspoonful
2nd „	3 „	6 „	sugar of milk to 20 water
3rd „	4 „	4 „	1 milk, 4 water
4th „	5 „	2 „	1 „ 4 „
5th „	6 „	2 „	1 „ 3 „
6th „	7 „	2 „	1 „ 3 „
7th „	8 „	2 „	1 „ 3 „
2nd week	1½ tablespoonfuls	2 „	1 „ 2 „
3rd „	to	2 „	1 „ 2 „
4th „	4 „	2 „	1 „ 2 „
2nd month	4-7 „	2½-3 „	1 „ 2 „
3rd „	7-8 „	3 „	equal parts
4th „	8-10 „	3 „	more milk
5th „	10-12 „	3 „	2 milk, 1 water
6th „	10-14 „	3 „	3 „ 1 „
7th „	10-14 „	3 „	4 „ 1 „
9th „	14-16 „	3 „	5 „ 1 „

From 10 p.m. to 6 a.m. food is only given if the baby wakes for it.

**Diluting Fluid for Artificial Feeding.**—Water which has been boiled is the simplest means for diluting milk for bottle-feeding, and should be used for babies in the first few weeks of life at any rate. If the mixture continues to suit the baby the water should be continued throughout bottle-feeding days.

**Barley Water** is more generally used for older babies, and it probably has some slight effect on causing the curd of the cow's milk to be less dense. It is thicker than water and has a demulcent or smooth taste which makes the diluted milk less watery and more agreeable to take.

When used, barley water must be made fresh, at least once a day, and twice in hot weather, as it soon goes sour. When made it must be kept unmixed with the milk in a cool place and mixed as required.

It is best made by taking one teaspoonful of prepared barley meal to half a pint of water. This is mixed to a smooth paste in a little of the water and the rest then added; the exact directions are given on the tins. Bring this to the boil, stirring frequently. Allow to simmer for twenty minutes, stirring frequently. Some nurses strain this, because lumps will form unless the pan be constantly watched and stirred.

Another method is to put a teaspoonful of washed pearl barley in a pint of water and allow this to stew gently on the top of the oven for three or four hours, adding water to make up for the loss by evaporation. It should be strained through muslin before use.

### **Is Barley Water Harmful to an Infant?—**

It is argued by some that starch is not a constituent of milk and that for this reason it is not right to give it to babies. They also say that the infant cannot turn the insoluble starch to soluble sugar during its early months of life. The fact remains, however, that barley water, which contains about 2 per cent. of insoluble starch when made in the ordinary way, has been used for ages, and is still used, for feeding countless babies without doing any harm whatever. It may be true that in their earliest days infants' digestive organs do not secrete a ferment which changes insoluble starch into soluble sugar, but even if it is so the unchanged starch can hardly do any harm to the digestive system. It is, however, most probable that if an infant be given starch its digestive organs will soon develop power to deal with it, and then the digested starch, apart from being a food, and the sugar of milk, act



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as a favourable medium for the growth of lactic acid bacilli which are now known to be of great use in keeping down the growth in the intestine of other bacilli of harmful nature.

As concerning the abnormal food argument against the use of barley water it must be remembered that cow's milk is also an abnormal food, especially as regards its curd, for babies.

There is, then, no general objection to using barley water as a means of diluting cow's milk for babies.

On the other hand, some eminent doctors think, from their own observation, that barley water may be the cause of gastro-intestinal troubles in infants.

If a baby can take, and digest, its milk diluted with water only, it is certainly *best not to use the barley water*, and as a point of practical value the daily nursery work is thereby relieved of an exacting item.

**Whey** may be a very useful article of diet for bottle-fed babies. It is the fluid which separates out from the curd after milk, at body heat, has been treated with essence of rennet and the resulting coagulum—which forms in five to ten minutes—broken up with a fork. About fifteen ounces of whey will separate out from one pint of milk, so treated.

The whey should be separated from the curd by straining through muslin and should then be heated to 150 or 155° F., measured by a thermometer, and kept at this temperature for ten minutes, to prevent the ferment acting on any milk which may be mixed with the whey afterwards. If heated beyond this temperature the lactalbumen in it will be coagulated.

Most essences of rennet are extracted with brine and consequently taste salt, and impart a disagreeable salty flavour to whey. The late Dr. Ashby asked Messrs. Benger and Co. to make one without salt, and this they do. Their essence of rennet is most satisfactory both as to its curding and keeping powers.

Whey contains about .8 per cent. of the very nourishing lactalbumen, 2.0 of fat and 4.5 per cent. of lactose, and is really the best diluent of cow's milk as it contains so much lactalbumen. The better the curd be broken with a fork the more of the cream will the whey contain.

Whey may be a very useful food for a time for babies in the first few days of life, or for older infants when it is desired to take them off all milk temporarily. It may have more sugar of milk added

to it to the extent of about two level teaspoonfuls to the pint. Some cream may be added also if necessary. It makes a very good diluent of cow's milk in the proportion of two parts to one of milk with a level tablespoonful of sugar of milk added to each pint of the mixture.

Whey as a diluent is better than a watery solution of lactose as it contains antiscorbutic properties. It means extra work for the nurse to make it regularly and costs more than water or barley water, but it may be well worth while using it.

Ashby's mixture of whey and milk in the proportions of ten ounces of milk with twenty of whey and a level tablespoonful of sugar of milk imitates human milk except that it is deficient in fat (2.5 per cent. only). If made with ten ounces of the upper quarter of milk which has stood six hours, the mixture will contain about 4 per cent. of fat, but although this is the amount present in good human milk it is too much for babies, as a rule, cow's milk fat being somewhat different to that of human milk and less digestible in an infant's stomach.

A few grains of bicarbonate of soda (as much as will go on half a threepenny bit) added to make the

mixture neutral or slightly alkaline improves its digestibility.

*Lime water* may be added instead of the bicarbonate of soda, about one or two teaspoonfuls to the feed. It does not taste nice and is not a diluting agent.

*Citrate of Soda*, in the strength of one grain to the ounce of *milk* in the mixed feed, is often useful in preventing curd indigestion, and may make all the difference to the baby's capacity for taking cow's milk satisfactorily. A point to remember about its use is that it may be constipating.

**The Ideal Way to make Artificial Human Milk.**—We have just seen that there is a risk of introducing germs of infectious disease into a baby's system with unboiled cow's milk, and the milk should therefore be scalded before use. As the temperature of scalding coagulates the lactalbumen of the cow's milk, which rises to the surface of the milk when it cools as the skin, there will be none of this nourishing food in the baby's milk if water, or barley water, be used as diluting agents. But there is some of it in whey and therefore this is the best diluent for the food.

Whey also contains the antiscorbutic element



less injured by the heat used in its preparation than is that in the scalded cow's milk ; and it also contains lactose and some fat. When whey is used less sugar need be added (about half a level teaspoonful for three ounces of food).

Although, perhaps, this is the ideal method it takes a good deal of trouble, and in actual everyday life for the majority of healthy babies it is only necessary *to add water and sugar to scalded milk and to make the mixture contain about 3 per cent. of fat.*

**Drinks of Water for Babies.**—Babies, from their birth, are fond of water, and will take it quite willingly from a spoon. It should be given warm when it has cooled sufficiently after being boiled. In a young baby it should be poured, a few drops at a time, into the side of the mouth, as it is lying on the knees. A good deal of the constipation which is troublesome in natural and bottle-fed babies would be avoided if more water were given than is often the case. Water is necessary for a baby just as well as for adults, and it helps to keep the contents of the bowels more liquid and to ease their passage, especially along the lowest part. It is especially liked in hot weather, when you can hardly give too much, as the baby will only take

what it wants. It is a good plan to try the effect of one bottle in the night of warm water, as mentioned on a previous page.

**Temperature of Food.**—Each meal should be warmed to the proper temperature as it becomes due. No baby's food should be kept warm over a flame or in any so-called "mother's friend" or patent bottle, as it soon changes in flavour and becomes distasteful.

The temperature of the food should be about body-heat, and although many nurses may be able to estimate this accurately enough by putting the bottle against their cheek, it is much safer to use a thermometer regularly. In summer weather the milk may be given a little cooler than in cold weather, but it must never be given cold.

Want of care in giving food at the proper temperature may make a good deal of difference to the baby's digestion and progress.

**Measuring the Food.**—The component fluid parts of a baby's food should be measured in a suitable glass measure each time and the amount should not be guessed at. Too much guessing of quantities goes on in kitchens and in nurseries and the consequence is spoiled dishes and spoiled bottles.

For the dry foods, or sugar, reliable measures should also be used. Spoons vary very much in size and capacity, and so if one be used for measuring it should be kept aside for this purpose. Dry food measures can be bought at chemists' shops or a chip box to hold a certain amount of sugar or milk can be obtained.

All the **utensils** required for the making of the baby's food should be kept separate from others in the house. The saucepans, jugs, measures, spoons, etc., should always be kept clean and ready for use.

**The food for night use must not be kept in the bedroom**, as milk will absorb objectionable materials from the atmosphere of a stuffy room. It should be put, covered over, on the landing, where there is more ventilation. In warm weather the jug should be placed in a bowl of cold water covered over by a wet cloth. It should not be kept warm and ready for use, but each meal should be heated when required.

**Feeding-bottle.**—The essential requirements of a good feeding bottle are that it can be easily cleaned, and that it has no corners or places in which germs which sour or turn the milk bad, or which cause thrush, can grow. The old type of

bottle with so many inches of rubber tubing was a very bad one, and as its disadvantages have so often been pointed out such a bottle is scarcely ever seen now. It was almost impossible to keep one of these bottles with its tubing, stopper and teat sweet.

The best bottles now used are those which are boat-shaped and flat on one side so that they can be safely put on a table without fear of rolling off or spilling the food. They have two good-sized openings, one, the larger, for the teat and the other for the valve which controls the entry of air into the bottle whilst the baby is feeding.

A simpler, and cheaper form, is a fairly wide-mouthed cylindrical bottle with a flat base on which it can stand, made of tough glass and quite smooth inside. There is only one opening in it for the teat, the air entering the bottle through the teat to replace the milk whilst the baby is not sucking it.

Both kinds of bottles are marked in tablespoons so that the quantity to be given can be accurately measured, and they can be easily washed, especially the boat-shaped bottle with its two openings, and all parts of them can be got at with a bottle brush.



It is a good plan to have two bottles, valves and teats in use so that one is always ready in case of accident.

**Teat.**—The same form of teat is used for both kinds of bottles. It has a broad, open end which, when wet, is easily slipped over the mouth of the bottle and which enables it to be turned inside out for cleaning purposes.

The easiness with which a teat draws depends on the number and size of the holes in it. These are either circular or triradiate (leech-bite teats). There may be one hole at the tip and two or three at the sides within one-third of an inch from the tip. It is not good for a teat to flow too easily, for a baby will often get too much milk at once and cough and splutter over it, and swallow air. On the other hand, if a teat is too slow it should be turned inside out and the hole enlarged with a hot needle.

**Cleaning of Bottles.**—After being used the bottle should be *at once* well washed out with very hot water and a bottle brush used. If not convenient to wash the bottle immediately after a meal it should be rinsed out with cold water or put into a basin of water. When it has been washed

it should be placed in a bowl of filtered or boiled water which should cover, and fill, the bottle itself.

The teat and valve should be treated in the same way.

On no account should any bottle or jug used for the food be put aside unwashed or unrinsed, because by so doing organisms which sour the milk will develop and the dried milk will be harder to remove.

In addition to washing the bottle after each feed it, and the jug used for the food, must be washed each morning with hot water with a small piece of washing soda added, and the bottle brush or jug mop should be used as well. After using the soda the jug or bottle should be well rinsed with fresh water.

When a stiff brush has been used no bristles must be left in the bottle, as they might be sucked through the teat and cause trouble.

**Additional Food to the Milk at Weaning Time.**—If a baby is thriving and putting on weight properly there is no need whatever to give it anything but breast-milk or bottle-meals of milk until it is certainly eight or nine months old. At this time, it can be given some starchy foods in milk between its breast-meals or in place of its ordinary

bottle of milk. Several foods are put up for use in this way and the directions for making the food with them are given on the tins. The bottle-meal may be prepared by making a thin gruel with one of these foods and taking one part of this and three of cow's milk with or without previous dilution ; and with a little sugar added. This meal may be given with a spoon.

*After nine months starchy foods should be given to every baby in its milk for some of its meals. It should begin its spoon-fed life now, and also be taught to drink out of a cup, although for some months previously it may have been able to take small drinks of water from one.*

It will probably also have had for some months many little drinks from a teaspoon which it has taken in a more or less skilful way.

At ten months thin gruel, bread beaten up in hot milk, or rusk and milk, should be given for breakfast and tea. Some doctors allow meat broths and yolk of egg for dinner about this age ; but if a baby is thriving on the other foods it will be quite soon enough to give these, and thin milk puddings, after twelve months. At this age, or very soon after, the bottle should be dispensed with

altogether in the daytime. It will still probably be necessary to give a bottle-meal of milk at 9 or 10 p.m. and then the baby ought to sleep until breakfast time. But not all will do this for a month or two longer and a bottle-meal may be necessary in the night also.

At twelve months bread and butter and sponge fingers ought to be taken at tea time with a drink of milk. A thin smear of honey on the bread and butter is often much liked and is very wholesome. Crusts must be avoided at this age as a baby cannot chew them and is very likely to choke over them; a soft biscuit is much safer.

**Curd Indigestion.**—Even when an artificial food has been made with cow's milk which closely resembles human milk in its essential food-contents we have to remember that the curd of cow's milk is much firmer, forms in much bigger masses, and is more difficult to digest, than that of human milk.

Hence we may find white masses of undigested curd in the motions, and that the infant has more or less colic and irregular action of the bowels.

A greater dilution, either with barley water or water alone will not affect the digestibility of the curd and the only way to deal with the milk is



either to add citrate of soda (q.v.) or to partially predigest the milk before it is given to the baby. For this it is necessary to use a peptonizing powder or a food with a curd-digesting power.

It is important to know that scalding, boiling or sterilizing cow's milk does not make much, if any difference, in the way the milk curds in the stomach, nor in the digestibility of the curd.

**Peptonizing.**—Cow's milk may be peptonized by using peptonizing powders which contain the curd digesting ferment, a little bicarbonate of soda and some sugar of milk, or by the use of Benger's food which contains curd- and starch-digesting ferments and some partially cooked flour. When Benger's food is made properly the flour is completely digested and the infant, instead of getting its additional sugar as lactose, or cane sugar if this be added instead of lactose, gets it chiefly as maltose—the same sugar as that formed in the body from barley water by the natural digestive juices.

The digestion of the proteins of the milk is not completed by the use of Benger's food, but the curd is rendered very much more flocculent and is much more easily digested than that of untreated cow's milk.

The process of peptonization should not be carried too far, because it is not desirable to relieve the infant's stomach of all digesting work; it is only necessary to modify the cow's milk to make the curd more flocculent, and this end is gained by partial digestion.

Peptonized milk is generally most useful in the earlier months with bottle-fed babies. When it is given, even if it is suiting the baby, the strength of the peptonizing material should be gradually diminished and its use discontinued altogether as soon as possible. A baby should not be kept indefinitely on artificially digested milk because of the possibility of scurvy arising (q.v.).

A little fresh fruit juice—orange or grape—should be given regularly according to the instructions supplied with the peptonizing material.

## CHAPTER III

# Dangers of Artificial Feeding

**Malnutrition or Marasmus—Scurvy—Rickets—Various Forms of Infant Foods—Sterilized Milk—Proprietary Foods.**

Not only is it sometimes difficult to find an artificial food mixture that a healthy baby will thrive on, but there is also a danger, in artificial feeding, of setting up actual disease which, unless recognized early and corrected by proper measures, may leave permanent marks on the body and health of the child or be actually fatal.

The diseases liable to be set up by artificial feeding are malnutrition or marasmus, rickets and scurvy.

**Malnutrition or Marasmus**—that is marked arrest of proper development with a wizened, shrunken appearance, brownish or pale unhealthy skin and a constant hungry cry, may be the result

of disease in the baby making it unable to assimilate good food, or of improper food being given to a healthy baby. The latter condition only concerns us here.

It most commonly arises in babies which are being fed on artificial foods which are made up with water only, or condensed milk, or on food from the parents' table. The last condition is not likely to be met with except in the poorer and uneducated classes. It may, however, arise from the improper dilution of good fresh cow's milk for bottle-feeding, and, more often, by not diluting enough for young babies. *Too much cream* in the bottle may also lead to malnutrition, and here it may be pointed out again that some cows, especially Jerseys, give too rich a milk for infant feeding.

The worst case that I saw in private practice, was a child which, when one month old, had been ordered a tinned food which required water only to make it ready for the bottle. It was near to death's door before three months old, but improved at once when the food was changed to cow's milk properly diluted.

The cry of malnutrition or chronic starvation due to the food which an infant receives being



either indigestible or insufficient in nutrient qualities to supply the demands of its growing tissues is very characteristic. It can be imitated by the note 'ah'—prolonged and persistent—and is more or less constant after the meal, which satisfying it for a time only, has been taken and found wanting. With the ah-ah-ah-ing the baby is constantly stuffing three or four of its fingers into its mouth and sucking them. There are no tears.

**Scurvy** results from the absence in the food of a body of unknown nature, but probably allied to the digestive ferments, which controls the proper digestion, absorption and elimination of food. The presence of this antiscorbutic body in food is absolutely essential for the preservation of health, whether for infants or adults. It is present in the breast milk and in cow's or other animals' milks, but it is rather easily destroyed by heat.

Scalding fresh cow's milk, that is bringing the milk to the boil, does not kill the ferment although it may reduce its activity, for thousands of babies are reared every year on scalded milk without scurvy developing. More prolonged boiling, and the process of sterilization by which the milk is kept below the boiling point for a quarter of an

hour or so, are more likely to render the ferment quite inactive. There is also little, if any, anti-scorbutic element in condensed milk or in any of the artificial infants' foods which require the addition of water only before they are ready for use. Even if fresh milk be used with these infants' foods and only brought to the boil there is still a risk, though not so great as when water is used, of scurvy developing.

Scurvy rarely appears until the baby is about half-way through its bottle life, and is most common about the seventh and eighth months.

The symptoms of scurvy are marked pallor, weakness, tender bones and limbs—the baby cries if moved—swellings in the limbs, especially the legs, and spongy, bleeding gums if any teeth be present, and blood in the urine. But no child should be allowed to get so bad before the proper remedial measures are adopted.

Most infant foods give some instructions as to the regular use of orange and grape juice with them to prevent the development of scurvy.

**Rickets** may occur in a baby which has been fed entirely on the breast, and may appear during the breast-nursing period, but it is more common after

the first year of life. It is almost certainly a disease which results from deficiency of fat assimilation, whether the defect be due to insufficient fat being given in the food, or to insufficient being absorbed by the digestive system. Its common occurrence after bottle life is due to too much starchy food, and too little fat (milk, cream, bacon dip, butter, yolk of egg) being given. But it is very important to remember that it may occur in a baby which is getting too much fat in its food.

Its treatment is feeding with proper foods containing more fat or removing the causes of any indigestion which is hindering fat assimilation.

The symptoms of its onset should be carefully watched for—they are pallor, restlessness and sweating of the head at night, tendency to coughs and colds, late development of teeth, disinclination to learn to walk and bone changes.

**The Various Forms of Artificial Foods.—**The great danger of using any artificial or proprietary infant foods in feeding babies, as has already been stated, is the development of malnutrition, scurvy and rickets. They should therefore never be ordered without careful consideration and after all reasonable means of modifying fresh



cow's milk have been tried, and only under close observation of the baby's health whilst taking them.

The most dangerous are those that require only the addition of water to prepare them for use ; the least dangerous those that require fresh cow's milk, to be added warm or scalded.

The former may be of use in hot countries where a supply of good cow's milk is unobtainable, but it is only under very exceptional circumstances that they should be used at home. They are also useful on long sea voyages when fresh milk is unobtainable.

Those foods in which the starch is only partially digested when the milk has been added and they are ready for taking are more suited for the later months of bottle life—after eight months—when the baby is more able to digest completely and assimilate the starch which they contain.

Those foods which contain a *ferment* which acts on the proteins and prevents the formation of large masses of curd may be very useful in the earlier months of infancy.

Whenever any of the artificial foods are ordered their use should be discontinued as soon as possible,



and precautionary measures against the development of nutritional diseases, such as the giving of orange or grape juice daily, must be properly carried out.

**Sterilized milk** can be obtained in bottles from many dairies. It has been prepared by being kept at a certain temperature, well below boiling point, for some time. In the process it turns to rather an unpleasant flavour, but this is altered to a certain extent by dilution and the addition of sugar of milk. It suits some babies that cannot be got to take cow's milk prepared in the ordinary way, but, more often than not, does not agree with them at all. It is not a good food and should only be used if all modifications of fresh cow's milk have been previously tried without success.

**Proprietary Foods.**—*Condensed Milks* are made from cow's milk by a process of evaporation, under diminished atmospheric pressure, during which the bulk is reduced to about one-third of the original. For their manufacture, either whole or skimmed milk may be used, and after the process of condensation they may, or may not, have cane sugar added as a preservative. Thus there are unsweetened condensed whole milk, sweetened

condensed whole milk and sweetened condensed skim milk.

For use, these milks must be diluted, usually by twice their volume of water, to bring them back to the original volume of milk. The addition of cane sugar, which acts as a preservative, will obviously make such a milk abnormally sweet and by a variety of sugar which does not occur naturally in the milk; and the previous removal of cream by skimming will make milk, so treated, deficient in fat. All these varieties of condensed milk yield a much looser curd when treated with rennet, the casein of the milk probably having been modified in the process of evaporation.

Condensed skimmed milk has quite recently been condemned as a food for infants by the Government Board of Health Medical Officer's report.

*A Humanized Condensed Milk* is also made which contains added lactose and cream, but no cane sugar, so that, when diluted with proper proportion of water, the resulting product more closely resembles human milk in its constituents than that of the ordinary condensed milks. None of the condensed milks contain the antiscorbutic element which is present in fresh milk. They may be very

useful on sea voyages or in hot climates where cow's milk is not good.

*Dried Milk Foods.*—The process of condensation of milk may be carried further, until desiccation results, and the powder, so formed, requires only the addition of a certain volume of water to reproduce liquid milk. This, however, owing to unavoidable changes of the milk constituents during evaporation and the mechanical process of reduction to a powder, compares unfavourably with, and can be readily distinguished both by appearance and taste from, ordinary milk. The protein material has a tendency to become insoluble and difficult of digestion. The addition of an alkaline salt ensures solubility.

*Starch Foods.*—There are many artificial foods for infants containing starch.

The following are some of the best known of these proprietary infants' foods :—

1. Those prepared from dessicated cow's milk with pre-digested starch added. They only require water and no milk to be added to make them ready for the infant.

“ Allenbury ” No. 1 and No. 2 ; Horlick's Malted Milk ; Milo Food, etc.

2. Starch which has been partially or wholly

digested. Some of them contain malt. Milk and water must be added before they are given.

Mellin's Food ; Hovis No. 1 ; Savory and Moore's Food ; Moseley's Food ; Allenbury's Malted Food (No. 3), etc.

3. Starch partially digested with digestive ferments added, which complete the starch digestion and begin the digestion of the curd of milk. Milk has to be added to them.

Benger's Food is the only preparation of this kind.

4. Starch which has not been digested at all.

Ridge's and Neave's Foods ; Frame Food ; Chapman's Whole Wheat Flour ; Robinson's Patent Barley and Groats, etc.

These foods are only for use after weaning.

5. The dried curd of milk. These foods are not for artificial feeding, but may be useful when added to puddings, soup, or meat broths.

Plasmon ; Protene Flour ; Casumen, etc.



## CHAPTER IV

# Weaning

**Age for Weaning—Time of Year for Weaning—Care of the Breasts during Weaning.**

The age at which a baby should be weaned will depend considerably on the health of the mother and on the development of the baby. Provided all things are going on well, the baby should be weaned about the eighth or ninth month. It may be necessary to wean earlier, but it should not be delayed beyond the ninth month. Apart from the mother's own health, the condition of the baby is the indication for weaning before the normal time; but, to judge of this, the weight alone of the baby is no sure guide, because, towards the end of lactation, the mother's milk often contains too much sugar, and the result is an over-weight, fat and flabby "sugar-baby."

It is quite wrong to keep a baby on the breast after the ninth or tenth month at the latest, although

it is not uncommon in hospital cases to find a baby being suckled after twelve or fifteen months. Sometimes this is done to save the expense of buying the baby's milk or food.

If a baby takes the breast for the nine months the weaning is brought about by substituting meals with some starchy food to thicken the milk, and this is given by spoon. Some mothers pride themselves on their children never having had an india-rubber teat of any sort, whether on a bottle or as a comforter, in their mouths. This is certainly a legitimate pride, and one can only feel sorry that it is not so commonly claimed now as it was in the days of baby's grandparents.

When a baby which has been on breast-food for the full time is being weaned food is given from a cup or spoon, and no bottle should be used. But if the baby has to be weaned earlier a bottle will probably be necessary.

It is often a difficult matter to get a baby to take to a bottle after it has been used to the breast, and some good nurses accustom their charge, from early days, to take at least one meal, especially in the night time, of artificial food from one. Others give the baby drinks of water from a bottle.

When a baby which has never had a bottle has to be weaned it may be necessary to starve it a little before it will take to one. The taste of any artificial food is different to that of breast-milk and the feel of a teat to that of a nipple, and the baby soon finds out these facts. When a bottle is to be given the teat used should be one that runs easily, and it may help matters to put a little sugar or honey on it, and to make the milk in the bottle slightly sweet with ordinary sugar. The mother should also keep out of sight whilst the bottle-feed is being attempted, as babies soon get to know what a mother can give them which no one else can.

It may be necessary to let it have the breast after all, but if the bottle be tried again and again the baby gets accustomed to the teat and will begin more and more to suck it.

When weaning is going on the number of bottle-feeds in a day should be gradually increased to the displacement of breast-meals until the bottle alone is given.

**Time of the Year for Weaning.**—It is important to choose a suitable time of the year for weaning, especially in towns where the milk supply is not

always reliable. Thus it is risky to begin to wean in hot summer weather when milk keeps badly. The change to cow's milk from breast milk is not only a great one from a digestive point of view, but in giving the former many micro-organisms, especially those causing summer diarrhœa, are introduced into the baby's digestive system which are avoided in the breast milk. If it can be arranged then, weaning should take place before the hottest months of the year or be deferred a little until a safer supply of cow's milk can be had.

It is also a safer plan to wean a baby whilst at home and not to do it when away in changed air.

**The Breasts during Weaning.**—When a child is being weaned the breasts must be stopped from secreting any more milk, and they may require to be relieved of the milk which will still be in them for a few days. To do this the mother should drink less fluid (a pint and a half will be enough), should take, for three or four days, before breakfast, enough of a saline aperient, such as a seidlitz powder, to produce a fluid motion. Equally important is pressure to the breast. In this the mother must use cotton wool, and over this a binder or many-tail bandage. These measures may be all that are



necessary, but if the breasts become hard, lumpy and painful, they should be relieved by massage in the way described on a previous page (see “ Massage of Breasts ”). Massage is much more effectual in relieving the distended breast than a breast pump—the use of which is often a painful procedure.

The breasts should not be massaged unless they get lumpy and painful, as massage, of itself, and the removal of milk from the breast by it in the natural direction of flow stimulates further secretion.

The breasts are sometimes painted with glycerine and belladonna to inhibit the secretion of milk, but it is very doubtful if enough of the drug can be absorbed through the skin to bring this about.

A belladonna plaster should not be used, as it is thick and masks the formation of lumps in the breast and possibly also of abscesses.

During weaning the nipples must be carefully looked after and kept clean with the boracic acid lotion, for if there is any sore or crack on them infective germs may get into the blood, and with the breasts in the congested state of weaning, are very liable to cause an abscess. A “ chill ” of itself never causes abscess.

## CHAPTER V

# Care and Management of the Infant

**The Baby's First Bath—Umbilical Cord—Breaking the Nipple Strings—Washing a Baby—Dressing a Baby—The Mouth—The Eyes—Scurf—Baby Crying after Meals—Comforters.**

**The Baby's First Bath.**—When the baby is born it is wrapped in a warm square flannel, leaving plenty of room about its face for it to breathe, and put in the cot with a warm bottle near, until the nurse has time to attend to it. When she is ready to bathe it, the water should be prepared at a temperature of 100° F., taken by the thermometer, as by the time the baby is ready to be put into it the water will have cooled to about body heat (98·4° F.). The baby's body is covered from head to foot with a greasy material (vernix caseosa), and this must be removed before it is put into the bath. The baby must be kept warmly wrapped up in the nurse's flannel apron, whilst the eyes, nose and ears are first attended to. The eyes should be bathed

with boiled water which has cooled sufficiently and in which some boracic acid has been dissolved—as much as will go on a sixpence in a small cup of water. If there is reason to fear that infection of the eyes has taken place during birth, it is of the utmost importance to bathe the eyes with a stronger lotion, specially ordered for the purpose, for many a baby's eyesight has been irretrievably lost by want of attention to this at birth, an infective inflammation arising which makes the eyes impenetrable to light. If there is any sign of inflammation an oculist should be consulted at once, as it is very difficult to tell a simple from a virulent inflammation in the early stages.

The eyes should be similarly treated for some days after birth. [*See Care of the Eyes.*]

The greasy material must then be removed from the orifices of the nose and ears, oil being used if necessary. After this the head should be gently, but well, rubbed with olive oil, and this and the softened grease then wiped off with cotton wool. The whole of the body must be similarly treated, and when this is done the baby must be washed with soap and water in the ordinary way and its mouth wiped out. [*See Baby's Bath.*]

**The Cord.**—After the bath the stump of the umbilical cord is dressed with powdered boracic acid and linen which has previously been sterilized by boiling. A pad of Gamgee tissue, or medicated cotton wool, is put over this and then the binder. This dressing must be renewed with each bath until the cord sloughs off and leaves the navel in its natural condition. The latter must not be allowed to get dirty or sore.

A powder composed of two parts of zinc oxide and one each of starch and boracic acid, dries the cord more quickly. The cord should be wrapped in boracic gauze, and a thin layer of cotton wool put over it under the binder.

If these instructions be carried out carefully the navel will close up properly and not get “windy,” a condition in which the skin over it is stretched and may “bag out” to the size of a marble. Though unsightly it means nothing serious.

**Breaking the Nipple Strings.**—Some old-fashioned and ignorant monthly nurses are in the habit of pulling hard on the nipples of new-born female babies to “break the strings,” giving as a reason, that the nipples and breasts will be better for it in after life. There is not only no sense what-



ever in such a proceeding, but it may also do much injury to the breast. I thought this practice had died out, but only recently heard of a serious abscess which had formed in the breast of a baby of seven days old as the result of the midwife's action. On no account must this be *allowed to be* done ; nor should any nurse be allowed to do anything to the body of a baby without the doctor's consent.

**Baby's Toilet Basket.**—A basket containing many small articles necessary for daily use with a baby should always be at hand. In it should be kept the sponges and soap, safety pins, needle, thread and blunt-pointed scissors for the binder, boracic acid or glycerine and borax for the mouth, mouth rags, powder and puff box, medicated cotton wool for any soreness of the skin, and a soft hair brush. A few well-aired napkins can also with advantage be kept on the basket. Much time, trouble and inconvenience is saved if such a basket be always handy.

**Washing and Bathing a Baby.**—From birth until twelve months old a baby should be bathed morning and evening, and, when properly given, a bath is a source of great pleasure to it, especially when it is a few months old. It is of the utmost importance to handle a baby in bathing it with the

greatest care and security, for if it be allowed to slip or fall it will be frightened of its bath, and it is curious to note how very soon young infants recognize good hands and have confidence in a skilful nurse.

The bath itself for young babies should not be too big, one about two feet long and one foot wide being quite large enough. The baby likes to feel the sides or the foot of the bath and soon learns to grip the former with its hands. The temperature of the bath should be that of the body, 98° F., and should be estimated every time by a thermometer. What is a comfortable temperature to the hand of an adult is not necessarily so to the body of a young baby. It is a good plan to put either a piece of flannel or an old towel in the bath, as this makes it more comfortable.

*The best form of bath* for babies after the first month is one on legs, which raise it to a convenient height and save much stooping. Such a bath is most useful as a washstand for elder children, as it has soap and sponge dishes and towel-rail attached.

When bathing a baby the nurse should wear a large flannel apron over a mackintosh apron, and with it should cover up that part of the body of the

infant which is not being washed. All soaping should be done whilst the baby is lying on the nurse's lap. The nurse must sit on a low chair, near a fire at which towels and clothes are being aired, with the bath close to her feet. It is a good plan to have a screen round the bath to keep off draughts : the baby's clothes maiden with a towel thrown over it answers very well for this purpose. After taking off all the clothes the baby should be placed on its back between the nurse's thighs with its feet towards her body and the head over the bath, the head alone not being covered by the apron. The head is then soaped gently with the hand which has previously taken up some lather, and then, when this has been done, the soap must be washed off with a baby's soft sponge, and the head gently dried with the towel.

The baby should now lie on its back across the nurse's lap, feet to the fire, and be soaped all over. It should then be turned on its front and the soaping finished. All creases should be followed out with the soaping hand and the buttocks and genital organs thoroughly washed. Then, having turned the baby on its back again, the nurse should place her left hand under its shoulders, with the thumb



and first finger securely, but gently, gripping its arm high up about the armpit. The head rests on the nurse's forearm. With her right hand, the nurse then, with a young baby, takes secure hold by both of the feet and later by the right thigh, high up, and lifts it quietly into the bath in a semi-reclining position. Whilst it is in the bath the nurse's left hand must not relax its hold of the back and arm or support of the head, all her sponging being done with the right hand. The baby's body is sponged all over for a few minutes, and then the nurse with her right hand takes firm hold as before, and the infant is carefully lifted out of the bath and laid, face downwards, on a warm, soft bleached Turkish towel which the nurse, before lifting the baby out of the bath, has spread over her lap. The baby is covered over with this towel and drying is carried out by means of a warm diaper towel. In drying, it is of the greatest importance to get to the bottom of all creases met with in plump babies, especially between the legs and the body, and of the natural folds of the joints. On turning the baby over to dry the front of the body the wet towel must be slipped off the knees, so that the baby lies on the dry flannel apron.



When the drying is completed, the baby's body must be dusted with some suitable toilet powder, such as powdered boric acid. A very pleasantly scented and highly satisfactory preparation is Sanitary Rose Powder.

The powder must be dusted with special care between any folds of skin, because it is there that skin troubles will be most likely to arise and the boracic acid will prevent the growth of any germs which set up inflammation.

The baby is then dressed, its binder being first put on.

The importance of taking a secure hold of a baby when turning it over on the lap must again be insisted on.

**The soap** for the baby's use is important. It should be a good one and have no free alkali. (Boval or ordinary Vinolia soaps are good.)

**Temperature of Bath.**—For a child of six months or more the temperature of the bath, in summer weather especially, may be about 94° F.

The plan of giving cold baths to infants is a heartless procedure at the best. It has no recommendations and cannot but frighten the average baby.

The two baths a day should be continued until the baby is about a year old, the evening bath being so refreshing and soothing to a tired, restless infant.

After this age the morning bath can be dispensed with and an ordinary wash of the face, hands and buttocks substituted. An evening bath is much the best for children who play about, for it would not do to put to bed, unwashed, a child who has had a happy day, especially in the garden, and is correspondingly dirty.

As the baby gets older and bigger a larger bath is of course necessary, and about two a child can be put into the grown up bath. The latter requires much stooping on the part of the nurse and also often rather frightens smaller infants who feel lost in it ; and a noisy outflow pipe of a big bath may be a source of fright in young children.

The morning bath for an infant will be given before or after the nurse's breakfast according to convenience. That in the evening should be five o'clock, or soon after, in the first year of life.

**Dressing the Baby.**—This must be done with as little turning over from back to front and vice versa as possible. For the first month a flannel binder is used. The baby should be on its back whilst this

is being put on, and then turned on to its front so that it can be stitched down the back. After the first month the Jaeger natural wool knitted binder is the best. It is drawn on over the baby's feet and, being elastic, gives some support to the abdomen. It also avoids the too tight or too loose application of a roller binder, the exact degree of support to obtain from this being difficult for any inexperienced nurse to gauge. After the binder is on and the baby is lying on to its front, the vest is put on. The best kind of vest is one open down the front with long sleeves and made of silk and wool. The diapers, Turkish and flannel, should then be placed in position, and over these the long flannel garment, or barrow-coat, the baby's arms being slipped through the shoulder straps, both of which can be made to button with great advantage. The baby is then carefully turned over, the art of doing which without disarranging the garments as placed in position will come with experience. The vest is then folded across and tied ; the diapers fastened with strong safety pins, the free ends of the body part of the inner one having been previously tucked in between the thighs to give more surface for catching the excretions ;



and the long flannel garment wrapped round and tied in the front. The bottom of the long garment is then turned up and safety-pinned very loosely at its sides to keep the baby's feet warm. The night-gown or monthly cotton gown is then pulled over from the feet upwards and the baby's arms put into the sleeves. A final turning over on to the front and fastening of the gown down the back completes the dressing. This order of dressing goes on during the long clothes period, that is from two to three months.

“*Shortening*” should take place about the end of the second month, unless the house be insufficiently warmed in winter, because the long frocks restrict considerably the freedom of movement of the baby's legs. A short clothes baby should be dressed in much the same way until it becomes strong enough to sit up without risk to its back, when the clothes are put on much as older children's are.

**Cleaning the Mouth.**—After the dressing is completed, the mouth should be cleaned by wiping the inside of the cheeks and the gums with a small piece of thin cotton, either cut from an old handkerchief or bought as nainsook. Whatever material is used, it should be previously boiled. The small



rag is wrapped round the finger and dipped into cold water, which has previously been boiled or filtered, and the mouth well wiped out. Some nurses wipe the mouth out after each bottle. The same pieces of material can be used several times if washed and boiled after use.

This washing out of the mouth should be done regularly, as it also removes small masses of milk and food from the cheeks which if allowed to remain might decompose and set up irritation. If proper care be taken to keep the bottles and teats clean, plain cold boiled water will be enough to keep the mouth healthy and sweet.

**Thrush**, parasitic stomatitis, or “frog” as it is popularly called, is a very troublesome affection of the mouth if it once becomes established. It consists of white patches surrounded by an inflamed or unduly red mucous membrane, and is generally associated with digestive disturbances which may cause diarrhoea. The excretions then irritate and inflame the buttocks, and the mother thinks that the thrush has “gone right through” the baby. It is not likely, fortunately, to appear if the bottles and teats are kept properly clean in the way described, but the further precaution of wiping out the

baby's mouth night and morning with boracic acid in water should be taken. As much powder as will go on half a sixpenny bit dissolved in a quarter of a cupful of water is strong enough under these circumstances.

If thrush actually develops it must be treated at once with suitable applications.

**Putting Things from other Persons' Mouths into the Baby's.**—It is most important to see that the nurse or any one does not put things from his or her own mouth into the baby's. This is a most objectionable habit. Thus a nurse should not judge of the heat or sweetness of a baby's bottle by sucking it herself and then putting the teat straight into the baby's mouth. If the bottle should be sucked for some reason or other the teat should be wiped before being put into the baby's mouth. The heat should be judged by a thermometer or by the cheek and the sweetness by tasting a spoonful before the food is put into the bottle. Nor should a nurse or any one put pieces of toffee out of his or her own mouth into the baby's. Illness can very easily be set up in a baby in this way, for the mouth of many teeth-bearing people is swarming with disease-producing germs which arise from bad teeth.

**Eyes.**—If there is no reason to suspect that there has been any infection of the conjunctiva of the eyes during birth it is sufficient to drop into each eye, night and morning, during the first week, water in which a little boracic acid has been dissolved, as much as will go on a sixpence in a small cup of water. Then, after the first week or so, the eyes need no further care than ordinary cleanliness. If there is reason to fear any infection of the eyes, special stronger lotions are necessary.

**Scurf.**—Some young babies and children are subject to the formation of brownish patches of dryish, greasy material on the head. This, when more marked, is often of a whitish colour. The best way to deal with this scurf or dandruff is to rub it with purified oil of paraffin, which not only dissolves the dry greasy material but tends to prevent its reappearance, at any rate for a time. Purified oil of paraffin is a clean kind of oil, rubbing well into the skin and leaving very little trace of its own grease behind. It is very much better than vaseline for this purpose.

**Nails.**—It may be necessary, very early in life, to cut the baby's nails, otherwise in its stretchings or strugglings it is very likely, if the nails are long,



that the face will be badly scratched, or the nails badly torn. Many old nurses say that a baby's nails should be bitten for the first time and not cut. This is, of course, absurd.

**If a Baby Cries or Screams Continuously when it is put in its Cot after a Meal should it be Picked Up or Left Alone?** Some say a baby must be taught discipline and "good ways"; it has had its meal and ought to go to sleep, and it is naughtiness which makes it scream; that if a baby is once picked up when it cries, it will always cry when put in its cot; consequently it must be left, even if it screams itself blue in the face, and until it cries itself to sleep, and it will learn its lesson and behave better next time.

My own opinion is that a baby is naturally good if well and comfortable, and if it cries it is ill or uncomfortable. If a baby does cry regularly when put in its cot the chances are that it has wind in the stomach or bowels, and this will happen if wind is not got up in the way directed on another page. To allow a baby to go on screaming under these conditions can but do harm not only to the baby, but also, and this is equally important, to the mother. There is nothing more distressing to a



mother or a good nurse than to have a little baby screaming in manifest pain or discomfort for minutes, or even it may be hours, especially in the night, and without doing anything to try and relieve it. Sleep is driven from all parties concerned. **The baby should be picked up** to see what is the matter, and the chances are that if it be held in the erect position wind will come up from its stomach : if not, and it is drawing its legs up against its stomach, it has wind in the bowels and this must be treated in the way described under the paragraph in colic and " bound " wind. It may be given some wind mixture also, and probably in a few minutes it will go to sleep quite naturally. If these simple measures be unavailing then something is wrong with the child's food or its health. Recurring attacks of screaming like this very often indicate mismanagement of the baby. Some nurses try to allay the mother's anxiety by telling her that screaming is good for a baby's lungs, that it strengthens them, but such a statement is wrong and probably more often than not used to cover a want of understanding of the baby's condition. A constantly crying baby then needs the doctor's careful thought.

At the same time it must be remembered that a

really tired baby may not be able to “ catch its sleep ” and may cry in a sleepy way when put in its cot. In such a case gentle patting may settle it off in a few minutes without lifting up being necessary or advisable. A mother will soon be able to tell instinctively whether the baby’s cry is one of pain or tiredness.

**A Comforter or Dummy Teat** is used very commonly, especially in households with restricted means and when the mother has to look after the babies herself. It certainly often justifies its name, not only from its effect on the baby, but also from the comfort which its quietening results bring to the parents. Some children are scarcely ever without them ; others are given them only at night or when they cry before a meal is due. The use of them, however, is unnecessary and often masks some slight disorder from inappropriate feeding, which should be corrected. If once a baby is given one it will want it again, and a bad habit is developed which it is difficult to break off, especially if it goes on into or after the second year of life. It is stated by dentists that constant sucking extending into the first few years of life sometimes causes a distortion of the central teeth of the jaws and the development of an ugly mouth.

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The comforter is generally the means of introducing all sorts of dirt into the baby's mouth, because it is always falling on the floor of the room or ground, and is generally put back into the mouth without being cleaned. If one is used it should be kept in a solution of boracic acid in water.

The natural tendency for a child, if it is well and its food is suiting it and properly nourishing it, is to be quiet and only to cry or grumble if it is awake and hungry just before its meal is due. If it is constantly crying it is uncomfortable from external causes, as damp or soiled napkins, or internal causes, such as indigestion or insufficiency of nourishing food. Any such disturbing condition should be removed and a comforter is then not only quite unnecessary, but even a false friend.

It is often difficult to break a baby or child off the comforter habit, and if this has to be done the best way is to put some bitter aloes on to it and the child will take a dislike to its old friend and do without it. If a child has got old enough to understand what is said to it a ceremonious burning of its comforter in its presence will often be sufficient to break it off the habit.

## CHAPTER VI

### Clothes for Children

**A Baby's Layette—Clothes for Older Children.**

**A Baby's Layette.**—A useful number of garments are as follows :—

Eight long night-gowns, cotton or flannel, or mixture.

Eight monthly gowns, or plain dresses.

Six long flannels, or barrow-coats.

Six long cotton skirts are often provided in outfits, as are also more fancy embroidered dresses. These are not really necessary.

Four silk and wool vests with long sleeves, two for night and two for day.

Four binders, roll or Jaeger.

A dozen Turkish bibs with strings stitched on to tie round the waist save many a wet frock from the first days of life.



A very useful garment is a fancy embroidered long skirt which can be pulled on over the night gown for going out. This saves some dressing.

A shawl or cloak for walks as fancy pleases.

Soft bonnet.

A very fine Shetland shawl to go under the cloak or outer shawl is advisable to keep the baby sufficiently warm in colder weather.

Knitted boots should be put on in cold weather.

Three to four dozen Turkish diapers.

Six flannel diapers.

A flannel and a mackintosh apron for the nurse.

*Short clothes* are much the same in number, only knitted woollen overalls with feet to pull on over the legs, and diapers should be provided for going out of doors.

For children, when beginning to walk and when as much freedom for the legs as can be obtained is desirable, knitted drawers to go over small diapers are very good for the house. They should button on to the stays. When the baby goes to bed, or goes out, it is better to substitute for the drawers a flannel diaper over the cotton one.

Stays, cotton or woollen, are also worn ; they take the place of the quilted flannel body of the

barrow coat and give a certain amount of support to the body.

**Diapers** are sold in several qualities from four to ten shillings a dozen. The better ones wear longer and are much thicker and more absorbent than the cheaper qualities. The sizes also vary, small, medium and large. The medium size is the most useful. From three to four dozen are advisable, so that their proper washing and highly necessary airing are obtainable. They should be boiled before use after coming from the shops to remove size, etc. The material from which they are made also varies. Turkish diapers are the best, the ordinary linen diaper being cold and thin. Other special forms, such as swansdown material, are to be obtained.

Diapers made of Gamgee tissue, to be burnt after each soiling, are very expensive. It is not a bad plan, however, with babies in the first few weeks of life, to put a small pad of Gamgee tissue in the fork of the body, the ordinary diaper being applied over this. This pad is burnt when soiled. It is not expensive and saves a great deal of washing, especially when it is remembered that a young baby may wet a couple of dozen diapers in the twenty-four hours.

*Flannel diapers* to go over the cotton ones should be made of a square of fairly thick flannel.

For children over six months a three-cornered flannel pilcher is less clumsy. This has a band and strings round the waist and a loop at the other angle through which the strings are passed and tied.

Mackintosh diapers to replace the flannels are very unsatisfactory and should not be used at all. If a diaper is wet it ought to be changed, and it is no recommendation for any garment that it prevents changing of wet diapers.

**Clothes for Older Children.**—The only point necessary to insist on here is that children should always wear, next to the skin, combinations made of wool or a mixture of wool and cotton or silk. Their clothes should never be heavy or tight.

Night garments should be made of wool or a mixture. As young children often kick the bedclothes off a combination sleeping suit is very useful.

## CHAPTER VII

# Training a Baby in Habits

**The Motions—Washing Diapers—Care of the Buttocks.**

**The Motions.**—For the first two or three days after birth the infant passes three or four motions which get rid of the material which has been collecting in the intestines before birth. These first motions are dark olive green or brown in colour from the bile which they contain and of a treacly consistency. About the third or fourth day the motions become yellow in colour, of a soft, homogeneous, unformed consistency, and of not unpleasant odour. No white masses of undigested curd appear in them : they are passed without any discomfort or straining, three or four times a day during the first month or two of life, and after this less frequently, that is twice a day, and with care and perseverance in training these two motions ought to be passed first thing in the morning and again in the evening.



*Every motion of any baby should be carefully inspected*, and anything unusual, especially evidence of undigested curd, that is white cheesy masses, noted. Much ill-health may be avoided if warnings thus given of the state of the digestion are noted and acted on.

**Training in Habits.**—From the very beginning of life a baby should be trained to use a chamber for passing urine or motions. A suitably small infant's chamber should be covered with a flannel jacket so that nothing cold comes in contact with the skin. For very young babies the nurse should let the baby lie on its back on her lap, her own right thigh being lower than the left, on which the baby will chiefly rest. A chamber can then be easily applied to the baby whilst it is lying down.

After the second month the baby can be held more in a sitting position with its back well supported by the nurse's arm whilst she holds the chamber to it, some of the weight of the baby resting on the chamber. The baby will very soon begin to relieve itself in this way, especially when encouraged by the nurse. It should be put on the chamber before, during or after each meal to teach it to pass its water at regular times, and control of the

bladder develops if this be done properly. At the end of a few months, with a healthy child, only six or eight diapers ought to be wet and none should be soiled in the course of twenty-four hours, and the baby is so much the better for having dry garments in contact with its skin for most of the day. If the diaper happens to be wet at feeding time, the baby may be encouraged to pass water again on to it after the diaper has been opened out from round the body, and the legs allowed to kick.

**Changing Diapers.**—A soiled or wet diaper must be changed as soon as possible and put into water. A baby is very sensitive to discomfort, and the urine or motions remaining in contact with skin, which is naturally delicate and often slightly irritated in diaper life, will often cause smarting and make it very restless and fretful. In the first few weeks of life the urine is passed very frequently in the twenty-four hours, and the bowels are moved about four times. The diapers must be examined at each feeding time, at least, and changed if wet or soiled at any time. It must be remembered that babies pass more water in cold than in hot weather, and consequently more diapers will be wetted on the colder days.

Many nurses change the diaper before giving the meal, because the natural result of sucking and satisfying its hunger is to make the baby sleepy. If the diaper has to be changed after the feed the baby may wake up and sleep be driven away. On the other hand, the actual entry of a food into the stomach may cause the bladder or bowel to empty and then it is quite wrong to put the baby to sleep with the irritating diaper remaining against the skin for a couple of hours. It is a good plan to train a baby to use a chamber after the first week or so of life, in the manner just described, before it is fed. It is surprising how soon a baby will learn the use of the chamber, and how much washing may be saved. An empty chamber should always be ready and then it is evident whether the baby has used it or not. With a dry diaper on, the baby can have its meal and it is ready to go into its cot, dry, after it has finished.

As a general custom, therefore, the baby should be encouraged to pass water before its meal, or in the middle of it when wind is being got up, either into an empty chamber or on to a diaper which is already wet. The latter should of course be loosened and the baby's legs allowed freedom, and the nurse must watch to see if the water is passed.



Then, if the diaper be found to be wet or soiled again after the meal it must be changed, but this will not often be necessary.

**Washing Diapers.**—When a diaper has been removed wet or soiled it should be put, as soon as possible, into a bucket containing cold water ; and it is better to keep the soiled ones in a separate bucket or else rinse them out in water before putting them with the wetted ones. This makes the washing much easier. Blue or soda must not be used in washing diapers ; only a good pure soap. Flannel over-napkins should not be put to soak, as they shrink. It is most important to see that the napkins have been dried and aired thoroughly before use, and it is a good plan to keep several on the nursery fire-guard when there is a fire. When the baby is young the diaper should be warmed before it is put on unless the weather be warm.

**Care of the Buttocks.**—Every effort should be made to keep the skin of the buttocks and between the legs healthy in a baby. Even where great care is taken to change the diapers properly the urine and motions are irritating to the tender skin of a baby in health, and much more so if there is any diarrhœa. Various methods are adopted for



protecting the skin, by powders, or grease. A combination of the two is the most effectual. There is nothing better than sweet oil for rubbing all over the skin which the excretions come in contact with, and it must be smeared well into the creases and folds which are so marked in a well nourished baby at the upper part of the thighs and between them every time a napkin has been soiled. In specially plump babies it is sometimes necessary also to insert wisps of cotton wool between the folds of skin to keep them from rubbing together. In addition to the oil a good dusting powder should be applied over the greased parts and between the folds of the skin. There is nothing better for this purpose than Sanitary Rose Powder which not only acts as a protective, but also as an antiseptic and prevents the growth of micro-organisms between the folds of skin and so averts a risk of inflammation and excoriation.

Fuller's earth and vaseline well mixed and beaten up together until a soft mixture results, is also useful if there is any sign of redness in the folds of the skin ; or the zinc, starch and boracic powder used for drying the cord is very protective and sedative.

If such scrupulously careful precautions be not taken the skin will redden and become very irritable

with the normal excretions, and with diarrhœa, especially the form known as green motions, it becomes inflamed and so painful that the child screams after a motion or urination.

## CHAPTER VIII

# Disturbances of Digestion in Babies

**Indigestion—Constipation—White Motions—Green Motions—Colic or Bound Wind—Soothing Mixtures.**

**Indigestion.**—This is generally indicated by restlessness and crying, with some increased action of the bowels and the presence in the stools of white masses of undigested curd of the milk. The stools generally are paler than normal or they may be green. Indigestion may be due to the mother's milk being too rich in fat, in which case there may also be vomiting and much looseness of the bowels with greasy foul-smelling stools. The richness of the mother's milk may be reduced materially by limiting the amount of food she takes, especially the meat, fat and milk, and by encouraging her to take more exercise.

If the baby is on bottle food the indigestion will be due to the cow's milk not suiting the child, either from temporary gastric disturbance or

because the milk is not diluted properly, having either too little or even too much water or too much cream added. [*See preparation of bottle feeds.*]

**Constipation in Infants.**—When the food is suiting the child and it is well there should be no trouble with the bowels, but very often, with no obvious cause, a motion or two may be missed, and the child becomes uncomfortable, fussy and restless. Then, with, or without help, a hard, often pale-coloured or whitish motion is passed. Any tendency to constipation must be carefully watched.

In *breast-fed babies* temporary constipation is often associated with a similar condition in the mother, and is often treated in both by a dose of castor oil given to the mother. The active principles of many aperients given to the mother pass through the milk to the baby and act on its bowels, for it often happens, if a mother has to be frequently taking aperients, the baby, especially in the first few weeks of life, may be always screaming through being griped and be unjustly looked upon as a “cross baby.”

Frequent screaming with evidence of griping, drawing up of the knees on to the abdomen, may, therefore, occur even in a baby whose mother is



taking too much aperient medicine, especially if this does not act properly on the mother and remains in her intestines. It is not often necessary to give a baby a dose of castor oil, although this is frequently done. Simple methods of relieving constipation are (1) *drinks of warm boiled water* which the youngest infants will take out of a spoon and enjoy. From one to two teaspoonfuls may be given regularly ten minutes before each meal, whether natural or artificial. If the baby be awake it can have a drink half-way between meals. (2) *Allowing the baby to kick* its legs unhampered by a diaper two or three times a day. This is best done before, though not too near, a fire in winter. Babies like to feel the warmth and spread their toes out before a fire with manifest pleasure and they love this "free kick." (3) *Gentle massage of the abdomen* downwards in the direction of the action of the bowel and applied close to the rim of the pelvis on the left side. Constipation is generally due to sluggishness of the sigmoid flexure and rectum—the food passing along to this lowest part of the alimentary canal as rapidly as in an unconstipated baby. Massage across the abdomen in the region of the umbilicus from right to left may stimulate

the colon to increased movement which may pass on to the lowest part of the bowel. (4) *The injection* of half an ounce of *tepid water into the bowel* is an excellent and safe method of providing the extra amount of stimulus to make the bowel contract and expel its contents. If a young baby goes twenty-four hours without having its bowels opened in spite of the previous methods of helping it, it will become very fidgety and find it increasingly difficult to pass a motion. The water should then be used. The injection should be given from a small all-rubber ball syringe, the point having been smeared with vaseline or glycerine before it is passed into the bowel. After the injection the water must be kept in the bowel for a few minutes and this is best done by holding a pad of a diaper against the seat. The baby must then be put on the chamber and allowed to expel the enema which will generally be accompanied by the constipated motion.

A suppository of ordinary soap may also be used for babies even a few days old. It may be given in the form of half an inch of a small pencil, or a soft cone made by the nurse as wanted. A baby is less liable to get used to this than to the water, and it is absolutely harmless. The passage

into the bowel of an inch of an unirritating foreign body, such as a fine bone penholder or the thick end of a clinical thermometer will sometimes provide the slight degree of stimulus which is often alone necessary to cause the expulsion of the motion.

Some nurses believe that even the slight stimulus given by rubbing the anus gently with a little olive oil is quite sufficient to bring on an action of the bowels.

Infant glycerine suppositories may also be used, but the water or soap is the simplest.

This local treatment is all that is necessary for temporary constipation, and is generally more satisfactory than giving medicine by the mouth, for it is often difficult to gauge the right dose of magnesia (*see white motions*) for an infant, and if this is not done the result may be too free action, or griping from ineffectual attempts of the bowel to act.

**White Motions.**—When constipation occurs, even in young babies, the stools are often pale and firm and formed like the shape of the bowel instead of being yellow and soft. If it has been allowed to go on too long in older babies there may be small hard masses like marbles. When pale stools occur the constipation is due to deficient action of the



liver and will not yield to the simple measures, especially increased water to drink ; it is best treated with small doses of mercury. Only a very little grey powder need, and should, be given because it gripes when used to excess. One-third of a grain given three times a day at intervals of four hours, especially if helped with some fluid magnesia, will generally be quite enough for a child of six months. A quarter of a grain similarly given is enough for a younger baby. The dose can be repeated next day or on the following day, but if too much be given, and it is easy to do this, the baby will be griped. As the grey powder is not given as a purgative but as a stimulant to the liver to secrete bile, even smaller doses, one-sixth of a grain given at intervals of two or three hours to babies a few weeks or months old, are very useful. In these doses the mercury does not act so much as a purgative but probably is absorbed and acts on the liver, increasing the flow of bile, and thus indirectly inducing increased movement of the bowels.

*Fluid magnesia* is a very useful aperient for babies. It is almost tasteless and if sweetened with a little sugar is readily taken. The best



preparation of the kind is Dinneford's Fluid Magnesia, which not only contains more magnesia than the pharmacopœial preparation, but also keeps much longer than the latter. A teaspoonful early in the morning before the first meal for a baby of a few weeks old is generally enough.

If the constipation is more persistent it is probable that the mother's milk is not of proper quality or sufficient quantity, in which case other symptoms of insufficient feeding will be present—wakefulness and fretfulness.

**Green Motions.**—When a baby has been fidgety and fretful, drawing its knees up through griping, the motions are often coloured more or less thoroughly with a grass-green tint. Looseness of the bowels will generally be present as well, and there are almost invariably some masses of undigested curd in the motions, and the child will often scream whenever it passes a motion, because, no matter how much care is taken to prevent it, soreness of the skin of the buttocks develops through the irritating nature of the motions. The presence of curd must mean that there is some indigestion, and it is probable that the curd acts as an irritant to the bowels, quickening the movements, causing diarrhœa

and pain. A teaspoonful of castor oil may clear out the offending materials and the condition may be relieved. Small doses, one-sixth of a grain of grey powder every two or three hours, will often help if the castor oil does not relieve. In mild cases the green discolouration may only last a day, the griping may not be troublesome and it may be quite unnecessary to change the food. This is especially so in breast-fed babies, but in artificially-fed babies the green motions may persist for two or three days, when, in addition to the medicinal treatment it is advisable to stop all milk food, and give white of egg in sweetened water or barley water only for twenty-four hours. In these more severe cases the change of colour of the bile in the stools is due to the presence of an abnormal micro-organism in the intestines, and the condition must be treated accordingly.

**Colic or Bound Wind.**—Babies are very sensitive to any intestinal disturbances, and flatulence in the bowels often irritates them very much and causes them to scream with pain. The abdomen is hard and the thighs are flexed vigorously on it and kicked out vigorously. Some wind may then be passed from the bowel, and the discomfort ceases.

Intestinal flatulence is likely to come on if great care be not taken to get up the wind from the stomach after meals before placing the child to sleep in its cot. The wind from the stomach, swallowed during the process of sucking, passes out with the digested food into the intestines and excites the colic. If the wind does not come away of itself it may be helped by loosening the diaper and allowing the baby to kick freely before a warm fire ; massage of the middle of the abdomen from right to left will also help.

A simple home-made preparation for wind is camomile tea, made by pouring boiling water over half a dozen camomile flower heads in a small cup and left until cool. This should be used fresh.

**Soothing mixtures** should not be used, and especially should no nurse be allowed to keep a soothing bottle of any kind to administer as she feels inclined, often to prevent her own sleep from being disturbed. If children are restless at night the cause of it must be found out and removed. Most of the so-called gripe waters contain a sedative drug. One of them contains nothing but antacid and aromatic medicines and is useful for flatulence if given occasionally only.

## CHAPTER IX

### The Nurseries

**The Day Nursery and its Arrangement—The Night Nursery—Cots and Beds.**

**The Day Nursery** should be one of the best rooms in the house and as large as possible, of a sunny aspect and well lighted. The outlook should be cheerful.

It is better on the first floor, and not higher, if possible, for there is so much coming and going in nursery work that it becomes very hard on mothers, even when quite well, and on nurses and servants if the nursery is high. Whilst this is so in health it is much more so with sickness. For the same reason the night nursery should also be on the first floor if possible.

**Oilcloth or Carpet.**—The best covering for the floor is a good linoleum, covering it entirely, with two or three rugs where children are likely to sit, the



linoleum being too cold for sitting on. A good one will last for many years, it does not stain readily and is easily cleaned. An objection raised to its use is that it is air tight and prevents the circulation of some air through the floor, but there is nothing in this objection really, for much of the air which can come through the floor of a room is bad air and fumes from the room beneath which is frequently heated by gas. Adequate circulation of air can be obtained in other ways.

If carpet be used it should not have a deep pile, as so much spilling of food, etc., takes place that any thick carpet is very difficult to clean and soon gets dirty and greasy. The ordinary Brussels or art square material is the most satisfactory in this respect, but if there are several children the wear and tear is so great that the life of these carpets is very short.

*Ventilation.*—A good supply of fresh air should be allowed to enter the nursery without creating draughts. Fresh air is one thing, draughts are quite another matter. A simple and useful device is to have the woodwork of the lower frame of the window raised about three inches so that the lower sash can be lifted to allow air to enter between

its upper part and the lower part of the upper sash. Some people put a board in, on to which the lower sash lets down, but the former is the simpler plan. A good inlet ventilator in the wall may also be used.

**Fire.**—A coal fire is best in the nursery, although a gas fire saves a very great deal of labour. Many odds and ends arising from nursery life have to be burned and this cannot be done in a gas fire. At the same time a gas ring burner for boiling, etc., is of inestimable value in a nursery. It must be fitted on at the side of the fire-place so that any fumes from it go up the chimney, and not into the room.

The nursery should be comfortably warmed so that the temperature of it can be kept at about 60° F. in winter. A radiator may be of great use in a large room, or outgoing and returning hot water pipes may be run across one end of the room, under the window preferably. This not only saves much coal in winter but it keeps the room at a better temperature all over than a fire alone can do. These pipes can be covered by a broad low seat. The pipes or a radiator must then be protected by wire so that the children cannot touch them.

A *Fireguard* is an absolute necessity and it

should be large, strong and safe. To prevent its being pulled over it should be fastened by chains or hooks to the metal of the grate. One with a brass rail round the outside is most useful, for clothes can be hung on this to air. Children should not be allowed to throw anything into a fire, as this cultivates a dangerous habit where there is not adequate protection.

The *wall paper* should be one of the bright and cheerful patterns which are now made for the special purposes of nurseries. Pictures of animals, or nursery rhymes, cause endless interest and amusement. It is more economical to have a plain dado which can be cheaply renewed when it has become dirty with greasy finger and other marks, as it will do long before the paper itself has become unsightly.

*Bars across Windows.* — All nursery windows opening at the bottom should be protected by substantial bars to prevent the children from falling out. They must be strong enough to bear the weight of a child muscling up on them, and if the window is wide an upright in the middle, well fixed to the window frame is necessary. They must also be close enough together to prevent a child from putting its head between them.



At holiday places I have seen a temporary protection of strong string network fitted to the windows of lodging-houses by mothers. This is a good plan, as the windows are often low and the sights so attractive that there is a very great danger of young children falling out.

**Night Nursery.**—The most convenient situation for the night nursery is again the first floor, and this will be found to be so especially if one of the children is ill. It is very hard work, at one and the same time, to keep an eye on children who are well and in the day nursery, and one or more who may be confined to bed.

The room should be chosen for warmth in winter and coolness in summer, and therefore one under the slates is not good. A fire is not necessary, as a temperature of 50° F. is enough, as a rule, and is easy to secure. A gas fire in the night nursery may, however, be very useful and there is less objection to one there than in the day nursery. It can be lighted for half an hour or an hour to take the chill off a cold room, or can be used with sickness. Any good gas stove, if properly put in to a chimney that draws efficiently, burns well and sends no fumes into the room. The form of gas



fire with asbestos balls in the grate itself with proper fireclay backing is perhaps the most satisfactory, though it may not give as much heat as a stove which stands out a little into the room. A kettle or a pan can be boiled on this if necessary. A fireguard is essential.

The floor is best covered all over with linoleum, with strips of thin carpet or mats along the bedside.

The wall paper, too, should be similar in type to that of the day nursery so as to be cheerful for any child confined to bed.

*Ventilation.*—It must be ventilated sufficiently well to allow enough fresh air to enter without causing a draught to fall on the bed. Beds should if possible be away from the cross draught of a window, door or fireplace.

**Cots and Beds.**—An infant's cot should be protected from all draughts by curtains or a hood, or it should be placed in a corner of the room and screened off from all currents of air. The bedding should consist of a hair mattress, a down pillow, blankets and a light eider-down quilt in the winter. The blankets must be light in weight. In cold weather a rubber bottle in a flannel bag should be placed at the foot of the cot but not near the baby's

feet. A diaper may be laid on the blanket over the bottle so that one may be always warm and ready when the baby has to be changed. It is also a good plan to lay a square of flannel on the cot pillow.

*A baby should never be put to sleep in a bed with a grown-up person*, as it is quite easy for an adult in a deep, tired sleep to overlie a baby, and the consequences of this may be fatal.

When putting a baby in its cot it should be laid on its side and not on its back, and the side on which it lies should be changed each time. It is not a good plan to rock a child to sleep. If once this be done it will always be expected.

The cot for a child after the "cradle age" must have high sides and it is of great advantage if these can be let down. But it is necessary to choose a form of cot in which the sides cannot be let down by the child itself, otherwise the mechanism will be closely studied by eager eyes, soon learned, and put into use when not desirable.

The cot should be lined at the head by padded quilting or some such material to save hard knocks and bumps in the gambolling which will go on in cot hours.

It is also necessary to put a net over the top to make sure that the occupant of the cot will spend its time in it and not roam at large. These nets can be bought at most furnishers. They must fasten well down under the cot, otherwise the fastenings will be undone.

**Mattress.**—A good hair mattress is the best. It must be protected by a reliable piece of mackintosh cloth, otherwise it will soon be spoiled by the wettings to which it will, from time to time, be subjected. This need only occupy the middle two-quarters of the mattress.

Over the mackintosh is put a single or double blanket. For young children of an age when they are liable to wet the bed old blankets are the best for use and not sheets. Later on thin flannel or Jaeger sheets are excellent for the top bedding for children up to about four or five years of age.

**Beds.**—Each child beyond the cot stage should have a small bed to itself. This is not only healthier but it makes rest more certain than if two children have the chance of disturbing each other.

If two small beds are not available one large double bed should be arranged against a wall with the bolster down the middle parallel to the head

and foot pieces and the pillows against the wall. The bedclothes are put on as for an ordinary large bed and a heavy, firm bolster is laid on top of the uppermost blanket, to separate the portions of the bed. An eiderdown quilt or extra rug can be thrown over all. With this arrangement one child will not pull the clothes off the other.

A small **clothes-horse** is a very necessary article of nursery furniture and on it should be hung the clothes taken off the baby. The latter should not be folded up and left on a chair, but when hung on the clothes-horse should be placed near an open window for some time in fine weather. In the winter they should be put before the fire for a while, and the baby's towels, white Turkish and fine diaper should be dried in the same way.



## CHAPTER X

### Learning to Walk

Crawling—Sitting up—Walking—Babies' Playgrounds—  
Toys.

**Crawling.**—Care must be taken not to let babies crawl too soon, as their arms may not be strong enough to bear their weight and they will bump their faces on the ground. They can with least risk learn their crawling on a good full-sized bed, and ten minutes' practice or rolling and kicking affords great delight to babies from nine months old or so. They enjoy this all the more if they have their legs freed from diapers, and before this is done, to avoid any "accidents," the child should be put on a chamber.

A **Crawling Rug** is a very useful article in the equipment of a nursery for babies from ten to twelve months old which are beginning to crawl. They may be made of white flannel, backed with

red turkey twill calico and with various animals cut out of red cloth stitched on. With button eyes they afford much enjoyment to babies when they are in the quadruped stage. Simpler forms can be bought. They have the great merit of being cleaner than the carpet and so prevent a baby from picking up undesirable crumbs, etc., from the floor, all of which are instinctively put into the mouth. A crawling rug should be spread over a carpet and not over cold linoleum unless it be very warm weather.

**Sitting Up.**—A new-born baby moves its arms and legs quite well but has no power over its head. When being washed on the nurse's knee its head hangs limply in whatever position it may be placed. Strength, however, gradually comes to the muscles ; but it is not until about the third or fourth month that the baby can hold its head up. At about the sixth or seventh month a baby may be propped up more in its perambulator or chair so that it can look about, but its back must be well supported by pillows. It must not be allowed to sit up without its back being properly supported for a month or two longer. About eight or nine months it will like to be propped up in its carriage or chair for

a time and will soon be able to sit up in a chair by itself.

**Walking.**—An infant from seven to eight months old will like to try its feet by pushing with them against any resisting surface. This is good provided the infant be supported with one hand of the nurse held against the chest and the other used as a seat for the baby and as a help in the jumpings. The average child should not be allowed to put its whole weight on its legs much before the age of twelve months because its bones have not “set” until about that time and they are liable to be distorted with the pressure from the weight of the body. This applies especially to heavy babies. Some babies, however, walk earlier than others. They do not, as a rule, walk much before the fourteenth month ; but some walk before this and others not until a later date. When learning to walk the baby should not be held up by the arms but should have a broad sash or some such article round its waist and chest loosely knotted behind, the ends being held by the mother. If a child be held by its arms, or especially by one arm, it is very likely to sustain some injury to the shoulder muscles or shoulder joint.

If a child does not walk until after the average time the question of rickets must be considered, for this is a common cause of delay.

**Babies' playgrounds** are also most useful, especially if there are other children about. They are used at the age when the power of walking is being acquired and before a child is old enough to climb. They are easily folded up and put out of the way when not required. The crawling rug may be used as a "carpet" for them. It is an important point in their construction that the upright bars should be close enough together to prevent a child from pushing its head between them and getting stuck there, and some of the cheaper forms are not thus safely made. When they are properly made it is safe to leave a child in them for a few minutes whilst the nurse goes out of the room on some necessary errand.

**Toys.**—The simpler the toy is, the more pleasure will it give to a child below five or six years of age, and the longer will it keep the child quiet. A child derives so much of its enjoyment in playing from pretending that its toy is anything but what it really is. The pleasures of imagination are at their greatest in the nursery age, and a toy that is



simple in its form will retain the affection of its small owner much longer than will a more elaborate creation. A box of good bricks, especially the Dutch type which contains various shapes which can be used to form a number of creations of a childish mind, will remain in favour and use for many years, whilst one of the elaborate mechanical clockwork toys of modern times may soon pall on its owner and either be broken or kept for the amusement of grown-ups.

For a baby, the toys should be of such a nature that they can be kept clean and have no paint or fur which can be licked or pulled off, or no edges that can hurt, because everything goes into a baby's mouth, especially after teething begins. Then at a certain age and for a certain time a baby likes to throw everything it can lay its hands on on the floor. It may be the noise of falling that pleases, or it may be that the baby likes to use its arms to some purpose that attains a distinct end. At any rate everything, toys or plates and spoons from the nursery table incautiously left within reach, go on to the floor, and it saves a good deal of picking up and of destroying toys if the latter be tied by their ribbon to baby's chair.

## CHAPTER XI

### Weight, Development, and Height

**Weight of Baby.**—A baby must be weighed regularly every week for the first year, and this should be done on the same day of the week. It is best to weigh just before a bath so that there will only be a light blanket to take into account, and the weight of this must be ascertained. For weighing, either a spring hand balance or a proper basket weighing machine may be used; the latter is certainly more reliable for older babies. With the hook spring-balance the blanket is knotted safely and pinned securely round the baby and the hook inserted through a convenient knot.

The weight must be recorded on a chart or on paper and its alterations must be carefully noted, for failure to put on weight properly is a most important and useful indication of the progress

which the baby is making and of the nutritional value of the food that it is getting. Thus if a baby is not gaining as it ought to do, especially if it is not sleeping well at night and only lightly in the daytime, it is almost certain that all is not well, and that the food it is getting is either not sufficient, however well it may be agreeing, or unsuitable.

It is, however, most important to remember that increase of weight may not necessarily be a true index of a healthy progress of the baby. What is also essential is that the *muscles be firm and not flabby*. The latter condition arises from too much sugar in the food, and may mask an underlying tendency to rickets.

On the other hand, if a baby is putting on too much weight, and this is most likely to happen in the later months of suckling-life, it is probably getting a milk which contains too much fat-forming sugar.

Although a healthy baby ought to gain weight regularly a very little disturbance of health may prevent an increase during a week. Thus anything that puts it off its food, such as a cold, or sore gums with teething will very probably prevent the proper

increase, but with a return to the normal conditions the weight should rise again.

The amount that a healthy baby will put on varies with its size at birth; a larger child will naturally put on more weight than a smaller child, other things being equal. The average baby weighs about 7 lb. at birth and ought to increase in weight by about half to two-thirds of an ounce a day on an average during the first month; it may lose a few ounces in the first week but not always so.

From the second to the sixth month a baby ought to put on nearly an ounce a day on an average, so that a seven-pound-at-birth baby would weigh at the end of four months about 13 lb. and at the end of six months  $16\frac{1}{2}$  lb. By the end of the first year it should be about three times that at birth (21 lb.). The increase in weight in the second year is steady but not so rapid, only about three pounds in each six months. After this age, about four or five pounds a year is an average increase, the child at five weighing about 40 lb. and at ten 66 lb. Girls, on the average, are a pound or so lighter than boys, but gain at about the same ratio. Any illness will, of course, stop the increase of weight for the time.



**Height.**—A baby at birth, on an average, should measure 19 to 20 inches, and should grow at a rapid rate proportionately to its size, measuring at the end of the first year about 27 inches. In the second year the increase is about  $3\frac{1}{2}$  inches and from the third year to the eleventh year should be about two to three inches a year.

	Weight Lbs.	Height in Inches.
Birth . . . .	7	20
1 year . . . .	21	27
2 years . . . .	26	32
3 „ . . . .	30-31	35
4 „ . . . .	35	38
5 „ . . . .	40	41
6 „ . . . .	44-45	43
7 „ . . . .	49	45
8 „ . . . .	54	47
9 „ . . . .	59	49-50
10 „ . . . .	66	51-62

## CHAPTER XII

### Diet in the Second Year of Life

**Milk forms the main article of diet** for a child in its second year, and is given as a drink, or in milk puddings or with porridge.

**Fat is also most important**, and this is contained in the milk, yolk of egg, butter and bacon dip.

**For breakfast** in the first part of the second year milk thickened with oatmeal flour—Robinson's "patent groats,"—beaten up bread or rusk, or "Frame food" should be given and a drink of milk, if it will be taken, as well. Later, a little thin bread and butter may be added, and solid food may be commenced with the yolk of an egg. About eighteen months a little bread mixed with unsmoked bacon dip may be added as a change; this, and the egg with the "porridge," bread and butter and milk forming the breakfast until into the third year.

The whole of a lightly boiled egg may be given also about the middle of the second year.

For **lunch**, about eleven, a drink of milk will probably be enough. If not a biscuit or sponge finger may be added.

For **dinner**, milk pudding with or without an egg added and a drink of milk is enough for the first few months. If an egg has not formed part of the breakfast one can be lightly boiled and then put over crumbled bread or given with a spoon for dinner. Milk pudding to follow.

Beef, chicken, or veal broth and bread or rusk should be the first introduction to meat food and may be had about the thirteenth month.

About the fifteenth month or so potato and gravy may be tried for a change, but children often do not like this at first.

Potatoes mashed with milk and butter may also be given. A little stewed or baked apple or the pulp and juice of stewed prunes may be given with the milk pudding at about fifteen months.

About the eighteenth month or later a little tender fish—whiting, lemon sole, or plaice cooked in milk, and well broken-up may be tried ; great care must be taken to avoid any bone, however

small. After this has been taken for a while, a little very finely minced meat may be given with the potatoes and gravy. The best form is chicken or honeycomb tripe, a tender cutlet would follow nearer the second year.

*Water* is as essential to a child at this age as at any other time and they should be allowed to have plenty of it, especially in hot weather.

**Tea.**—Bread and butter with a smear of honey or jam, and sponge fingers with milk to drink will form this meal.

**Supper.**—A drink of milk at bedtime may be wanted, but not much should be given as there will be a risk of bed-wetting.



## CHAPTER XIII

### Going Walks—Care of Older Children

**Walks—Dressing for Walks—Perambulator and its Net—Hardening Children—Bare Feet—Extent of Walk—Boots and Shoes—Cold Baths—Rest and Sleep—Hair and its Disorders.**

**Walks.**—Some people believe that it is a good plan to harden children from earliest infancy by taking them out of doors in all weathers, and certainly by letting cradle-babies be out of doors all the day time. No great harm is likely to happen to babies which sleep in a perambulator with the hood well up and with the hood end placed in the direction from which the wind is blowing, for babies can be kept quite snug and warm in this way. Whilst such a plan is good in dry weather it is rather a refinement of the hardening process to have babies out of doors all day long in wet weather. If there is a summer-house or some suitable shelter, well and good, but if not, the risks of the wet are greater

than the advantages likely to arise from the fresh air. Moreover, there is the nurse or mother to think of, for a baby will not lie quietly in its perambulator for very long when awake without it is being wheeled about, and it is very unpleasant for the person who has to wheel it about in bad weather, especially in towns and suburban districts.

A baby should not be taken out of doors until it is at least a few days old, and then only in fine warm weather and if it is quite well itself. Before being taken out of doors it should be taken to other rooms in the house, especially to a good large one with plenty of air, so as to acclimatize it to the difference of temperature in the atmosphere out of doors as compared with its bedroom. When taken out of its bedroom it must be wrapped up in a warm shawl. For the first walk out of doors the weather must be fine and no wind blowing. In winter, or if the baby is not quite well, it may be some weeks before it is wise to take it out.

**Dressing a long-clothes baby for going out** is best done by spreading the out-door clothes, arranged in order, on a pillow or a bed, the one to be next to the baby being uppermost, and so

on. The baby is then laid on the clothes, which are folded or fastened one after the other.

**Perambulator.**—When a baby goes out in its carriage it must be warmly wrapped up, and a small rubber hot-water bottle with a flannel cover should be put in the foot of the carriage away from the feet. It should have a soft pillow for its head, and should be laid down on its side, the cushions having been covered with a folded blanket or shawl. The perambulator must be one in which the baby can lie full length and must have a hood. In bright summer weather there should be a white awning, preferably lined with green, which softens the light. Even when a baby is asleep no strong light, and especially no strong sunshine, should be allowed to fall on its eyes.

**Net for Perambulator.**—When any child is left to sleep outside in its perambulator it must be protected by a cot net against cats. Paragraphs appear in the papers from time to time giving an account of an inquest on a baby smothered in its perambulator by a cat sleeping on its face. The cat jumps on to the carriage and finds the baby's face the warmest spot, so curls up on it. The danger of this arising in the house must also be remembered,



and any cat must be kept out of the baby's or child's bedroom.

**Walks in Cold Weather.**—For children sitting in their carriages the risks of catching cold in blowy, wet or wintry weather are very considerable and outweigh the advantages of the fresh air, and this is again specially so in towns and their suburbs where the buildings, rows of houses, and streets cause the wind to blow in all directions, no matter what the quarter be from which it really comes. It is therefore impossible to keep a child protected by the hood of a carriage and it can easily feel, and be, cold no matter how warmly it is wrapped up, after sitting still for an hour or two. Then it can be no pleasure, even to a child of a year old, to be walked about in the rain or wind.

These remarks apply more especially to town and suburban life. In the country children go out in worse weather than the less fortunate town dwellers, without much risk.

For older children who go walks the above remarks are even more applicable, and many a child has got a serious illness by being taken out in all weathers. Little ones of three or four cannot possibly walk quick enough to keep warm in cold,



windy and wet weather, and it is harmful to them to make them walk too quickly or to run to keep up with a nurse who is going fast to keep herself warm. Some nurses have an habitually fast walk which obliges the children to trot always so as to keep up with them. This is quite wrong. The solution of the question is, as in most other things, moderation in exposure to the weather to which children are much more susceptible than grown-ups.

In cold wintry weather children should be well wrapped up for their walks, or especially when they go out in a carriage. Any bare legs above the stockings should be protected by long gaiters.

**Hardening Children.**—In addition to sending children out in all weathers some mothers will not allow them to wear any cap or hat, and it is possible that such a procedure may make them less liable to catch cold. The objection to this is in towns where there is much dust, which is often largely composed of dry horse manure, tar or chemicals from roads treated to prevent dust, etc., for these certainly settle in the hair. In the country there is much less objection from this point of view. If children do go about without hats their hair must be kept very well brushed and washed.

**Bare Feet.**—There is no part of its body that is nicer than a baby's feet, with the natural spread of its toes, and the longer they can be kept in their proper shape, the better for the feet and the child. But it is unnecessary for children to go shoeless to do this, now that such good hygienic shoes are made. It is decidedly dangerous to allow children to run about out of doors with bare feet, because the skin is not hard enough to resist injury from stones and other sharp-edged things, when the weight of the body is the force behind the cut, and a cut into which the dirt of civilization enters is as dangerous a cut as any one could get and may lead to serious results.

**Extent of Walk.**—Children when three years or so old can walk a fair distance, but they should always have a go-cart with hood and rug with them so that they can have a ride when they are tired. The actual distance which any child can walk depends on the child, and overwalking must be carefully prevented. If a child seems tired after its walk, if it will not play with its toys and is not ready for its food it has been taken too far.

It is of the utmost importance for a nurse to regulate her pace to that of the children and not

to walk so fast that they have to run to keep up with her.

**Boots and shoes** for children should be sufficiently broad in the toes to avoid any pinching or squeezing, and well-made, good-looking boots can now be bought almost anywhere.

Lace-up boots support the ankles better than shoes and are better for children who are walking or running about much, especially for any who show a tendency to weakness of the ankles.

For summer wear sandals made with turned-up ends are cool and comfortable. The protection afforded by the turned-up end is useful in saving many cuts and bruises on the toes which ordinary sandals, with only a strap between the toes, subject them to.

Rubber soled shoes with golosh sides and cloth tops are not good for continuous wear, as they make the feet very hot, but they are useful for playing in the garden in damp weather.

If children go out for walks or to play in the garden when it is very wet underfoot they will be saved many a cold if they wear goloshes over their boots and shoes. Damp boots and stockings are responsible for many childish colds and chills.



Children should not be allowed to keep damp things on their feet in the house. At most good kindergarten schools they are made to change their boots on arrival, and this is a very good plan to adopt.

**Cold Baths.**—The practice adopted by a few parents of trying to harden an infant or young child by giving it a cold bath instead of the usual warm one is not to be recommended. There may be some infants which will chuckle and crow when immersed in a cold bath, and if so the bath may do no harm, but I have never met with one and should say that the cold bath will be more likely to strike terror in the child, make it afraid of its bath and give it a bad cold. This has already been referred to under babies' baths.

**Playing in the Garden.**—In hot summer weather children should be kept in the shade as much as possible. If there are no trees a simple tent is useful. It is a good plan to have a sand-heap in a shady spot; this will keep children agreeably and quietly occupied for hours in warm weather.

**Rest.**—Babies up to twelve months of age will sleep in the daytime as much as they require.

Between one and three years old most children ought to have a sleep in their cots after the midday



meal for about an hour. After this they should be allowed to cool down for a quarter of an hour or so before they are exposed to any draughts or cold air. As a rule, children wake up properly and in a good mood after this rest, but sometimes a child will be fretful and cry unreasonably after its sleep. Such children must be treated patiently, for the crying fits only occur now and then, or for a certain time of their life, and they grow out of them. Scolding is no cure ; it is much better to try and divert their attention to some subject or object of interest.

Older children up to six or seven are also much better for the after-dinner rest, but unless specially tired or out of sorts they need not go to sleep. Rest on a bed with picture-books to look at or toys to play with for half to three-quarters of an hour is all that is required.

This hour of rest is much better after dinner than before because it divides the day better, and also gives the heavy meal a chance of being partially digested before the exercise of walking, playing or games is taken. It also affords the mother and nurse the chance of a much-needed rest. .

**Bedtime.**—An infant in arms should be bathed and put in its nightclothes and cot soon after five

o'clock, and children up to five or six should go to bed soon after six. They may not drop asleep for an hour or so and a picture book may be called for, but they are resting, and they will sleep much more naturally than if they are allowed to stop up until they are overtired and cross.

Children of seven to eight should go to bed soon after seven, books being allowed as before if they do not go to sleep at once.

Schoolboys of nine to twelve should not be up after eight. They play hard and have to work hard, and require as much rest in bed as they can get and often much more than they are allowed.

In the spring, summer and autumn months children who go to bed at the above hours may wake an hour or two before it is time for dressing, but they will generally rest quietly in their beds with a picture or story book. Sometimes with children who are slow at their lessons these half-hours or hours of reading in bed may be the only reading relaxation they get. They should, however, not be allowed to read in bed for more than half an hour or an hour before getting up. In the winter, for older children who wake early, an electric reading lamp, or a good light in the bedroom

must be provided, so that they do not strain their eyes ; and books with sufficiently large and plain type should alone be allowed.

**Hair.**—Children's hair should be well looked after and washed about once a week. It should also be well brushed in the daily tidying, and should be examined frequently to see that there is nothing wrong with it. The commonest sources of trouble are scurf and nits or head-lice. The former appears in white flaky scales, which are either scattered generally throughout the hair or are clustered together in cakes. Scurf or dandruff scales can be blown off the hair, if they are scattered, and this is important in distinguishing them from nits—the eggs of the lice. The latter are more colourless and adhere very closely to a hair to which they are cemented, and from which they project at one side. There is no mistaking them when present. If a supposed piece of scurf cannot be blown off the hair or removed by the finger nail, the hair to which it is attached should be pulled out and the foreign body examined more carefully. If it is a nit it will stick to the hair and can scarcely be detached ; the only way to do this is by pulling the hair right out through its attachment to the back of the nit.

If these nits be present the hair should be combed with a fine-tooth comb, when the actual lice, little pale-brown animals, which have laid the eggs, will be found.

These lice, or pediculi, breed very quickly, and by biting and burrowing they cause great irritation to the head. If a child is constantly scratching its head, their presence should always be suspected, for scurf does not cause much, if any, irritation. If the pediculi be not removed they will cause inflammation of the scalp, and the glands down the back of the neck will swell. When they are found the best way to remove the adult animals is to use a fine-tooth comb thoroughly, after cutting the hair short if it be long. But although the animals themselves may be all removed in this way the head is not clean, as the nits may hatch out into more animals, and therefore these must be killed by proper applications.

A warning should be given here against the use of paraffin, often recommended, for killing the pediculi and the nits, the danger of this catching fire if any naked flame or fire be near being very great.

The best and simplest method of treating scurf,



as mentioned in the chapter on the baby's hair, is to rub, with the finger, purified oil of paraffin into any masses of it. This oil softens the crusts, and they can next day be removed by gentle use of a fine-tooth comb or by washing with soap and water.

Apart from nits an itching head may be due to dirt, and this will probably only be met with in older children who are supposed to wash themselves.

No child should be allowed to put on other children's caps ; this applies especially to fellow-school children. There is a very great danger of hair diseases, such as pediculi and also ringworm, being contracted from the use of a strange cap.

## CHAPTER XIV.

# Food for Nursery Children

**Varieties of Food-stuffs—Importance of Chewing Food Well—Various Meals and Foods—Cooking of Food—Drinks with Dinner—Food for School Children.**

To maintain health and activity and to enable the body to grow, several different kinds of food must be eaten. They are—

1. Proteins or nitrogenous foods which comprise flesh of animals, birds or fishes ; the curd of milk or cheese ; the white of eggs and small portions of vegetable products.

2. Starch, which comprises flour, and, therefore, all kinds of bread, oatmeal, wheatmeal, rice, tapioca, sago. All starches are turned into sugar by the digestive processes.

3. Sugar in different varieties ; lactose in milk ; cane sugar or ordinary table sugar ; glucose or grape sugar in grapes or raisins ; and fruit sugar in

fruits. Treacle, molasses and golden syrup contain both cane and fruit sugar. Honey contains about equal parts of grape and fruit sugar. Jam contains a large amount of sugar, but even if made with cane sugar the process of boiling with the fruit changes the cane to grape and fruit sugars. Much commercial jam is made with grape sugar manufactured from maize chiefly.

4. Fat, whether with meat, or as dripping, cream in milk, butter, yolk of egg, cod-liver or vegetable oil (salad or olive oil).

5. Mineral matters, compounds of sodium, potassium, lime, phosphorus and chlorine.

These mineral foods are taken in greatest amount as the common table salt, or sodium chloride. The others are in the various foods.

6. Water.

The proteins, mineral matters and water act both as tissue formers or body builders, and as energy and heat producers, whilst the starches, fats and sugars are chiefly energy and heat producers only. Excess of sugar is fattening.

To get the best value from foods in reasonable bulk the experience of ages has shown that a mixed diet containing all of the above varieties is necessary,

hence the meat, potatoes and puddings, bread and butter, milk and sugar of everyday life.

In addition to the body forming and energy and heat producing value of foods it is necessary for there to be some indigestible or unabsorbable residue from the foods left over after digestion to stimulate the intestines to contract and pass out the waste products of digestion and metabolism. These indigestible matters are mostly met with in green vegetables, fruits and the brown part of brown bread.

Of the foods that we eat, the flesh, starch and fat are useless for body building or heat and energy producing until they have been digested, that is, changed in the mouth, stomach and intestines from insoluble to soluble materials which can be taken into the blood.

The process of digestion begins in the mouth where the saliva, if it is given a chance, acts on the starches—the bread, porridge, cakes, puddings, etc.—and begins to turn them into a form of sugar. The meat and fat also have a most essential preliminary process to digestion carried out in the mouth, namely the grinding up from large into small masses—the smaller the better—so that



they can be digested in the stomach and intestines and turned into the form in which they pass into the blood and are carried by it all over the body.

The sugar and salt are in soluble form when taken into the body and are dissolved by the water of the digestive juices.

As the fats, starches and sugars are partly used for heat producing, more of them are necessary in cold than in hot weather. The great amount of fat eaten by the Esquimaux is a striking instance of the use of fat as a heat-producing food. It is twice as good a heat producer as the starch food.

**The Appetite of Children varies very much.**—It is a natural instinct of a child to eat, and the appetite is generally the best guide to the capacity for digesting food. Many parents worry very much because a child is taking little food, at any rate as compared with other children. But it is more likely that a healthy child will suffer from over-feeding than from supposed under-feeding. Care must be taken that children are not allowed to spoil their appetite by eating too much between meals. This can easily be remedied, of course. But there are often children who “pick” at their food habitually and are poor eaters generally. They

are often below the proper weight for their age, and their powers of digestion and assimilation of food are below normal. In these cases it is no use forcing the child to take more food than its stomach asks for ; it can't digest it and it will be made ill. But an attempt should be made to increase the appetite by giving a simple bitter tonic just before a meal to stimulate the digestive powers. With increased power to take and digest food the general bodily strength will be improved and the appetite increased. An actual aid to digestion such as a thin malt extract may be useful, but thick extracts are sickly substances.

No ordinary children should be encouraged to eat after they have been satisfied, especially by urging them to "clear the plates." Nature is the best judge of what she can deal with in the digestive line, and much harm can be done to digestions by encouraging over-eating.

**Amount of Food necessary for Children.—**  
As a child's body is growing rapidly it can assimilate more food in proportion to its weight than an adult can, and it can also probably digest its food quicker. Hence the healthy appetites which characterize growing boys and girls and the ability to take and

apparently to digest a meal almost at any time. With children, however, food should be restricted as much as possible to proper meals, and eating between them should be discouraged. The amount of food necessary for children as compared with a normal adult doing moderate work is stated to be as follows :—

A child under 2 years requires 0·3 the food a parent.

A child of 2–5 requires 0·4 the food of a parent.

A child of 6–9 requires 0·5 the food of a parent.

A child of 10–13 requires 0·6 the food of a parent.

A girl of 14–16 requires 0·7 the food of a parent.

A boy of 14–16 requires 0·8 the food of a parent.

This is only a statement of a broad principle and allowance must be made for variations of size or of personal peculiarity in children.

**Likes and Dislikes.**—It is a fairly safe principle to go on that if a child likes a food it is good for it and it will be digested properly. If it dislikes a food it is generally wise not to force it on the child. The best incentive to digestion is appetite and fancy for a food, and if foods have to be choked down under compulsion indigestion will probably result. The appetising cooking of food is also of the greatest importance. [*See “Cooking of Food.”*]



Some children cannot take fat, especially butcher's meat or bacon fat; they dislike the taste of it. Others are very fond of it. In the former case, they should not be compelled to eat the fat they dislike; they will probably get plenty as butter, in milk, or in eggs. If children like meat fat they should be allowed a moderate amount of it, especially beef fat, mutton fat being much stronger and likely to upset the stomach. Then, again, eggs make some children ill, causing either biliousness or bringing out eczema. Jams, currants and other kinds of food may also disagree.

If a food peculiarity exists it must be recognized and the offending food withheld. On the other hand, a child may express a dislike to plain milk puddings if anything more appetising is to be had, and then the situation must be met with discretion and firmness. The favourite foods of children will soon be found out, and it is better to provide these and not to force distasteful dishes on them.

But it does not follow that because a child likes a food specially that it should be allowed to eat as much of it as it fancies, or there would be no end to the consumption of sweets, cakes, pastry, and illness would be frequent.



**Importance of Chewing Food thoroughly.**—Most children are inclined to eat hastily and without proper mastication, that is they bolt their food, especially if they have good appetites and want to be in time for a second helping of an appreciated dish. From what we have just said, however, it will be seen how necessary it is to teach them to take time over their food and to chew it well. Not only does proper chewing mix the saliva with the starchy food and begin its digestion, and grind up the flesh and fat into small particles which make attack by the digestive juices in the stomach and intestines much more certain, but it also tends to allay an appetite in a natural way and to prevent over-eating, and it has a most beneficial effect on developing the jaw and the coming teeth. Children must therefore be taught with infinite patience to chew their food properly, and, to help this, they should not be allowed to develop the bad and harmful habit of washing food down with drinks—they should only be allowed to drink after clearing their plates. [*See Teeth.*]

Although some starch digestion begins in the mouth, nearly all the food is digested and made soluble in the stomach and intestines. Stomach

digestion is a most important preliminary to the further changes which the food undergoes in the intestines, and this takes a time which varies with the different classes of foods, some taking four or five hours before they are passed on. When once the stomach has begun to digest a meal in it, no further food should be put into it until it tells us by the sensation of hunger that it is ready for more, because the introduction of new food into a mass of partially digested food delays further digestion and upsets the stomach. There is no more common cause of stomach troubles in childhood, or at any age, than eating when not hungry. Experience has shown what intervals are necessary between meals and these should be kept to rigorously, especially with children.

**Breakfast.**—Nursery breakfast ought to be given at 8 or 8.30, not later, because children usually get hungry in the night when they have had no food after 6 or 7 o'clock. It should be a meal which is varied as much as possible, because change of food tends to prevent constipation in children as well as in adults. It should begin with one or other form of porridge or bread and milk and be followed with fat, unsmoked, and not too salt

fried bacon, or eggs boiled, poached, or buttered. A mixture of fat bacon *and* eggs makes a meal which requires more digestion than many young children or even adults can provide, the yolk of the egg containing so much fat. The bacon must be cooked properly and not burnt or dried. Burnt bacon fat is bad for any one and especially for children.

Lean bacon or ham and eggs is a better combination of food, as there is not so much fat in it, for older children, but red or salted meat is not good for nursery children at breakfast. Good potted meat is useful as a variety, and this being in a state of fine subdivision is easily digested. White fish or lightly cured haddock is also a good change, especially for children above six.

Sausages are very likely to disagree with young children. They certainly are greasy and rich. School children who lead an active life may be able to manage them quite well.

Cold boiled bacon, ham and tongue are much appreciated and are good for older children as a variety. The meat should be tender, and well boiled, and it is an excellent plan in cooking boiled ham or bacon to put the fat side, after boiling.



towards a hot fire, so that much of the fat may be “sweated” out. This makes the fat less solid and more digestible.

Raw or cooked tomatoes, for children who like them, are very good for breakfast. Some sound fruit, especially bananas, may be taken by older children if the child likes it and is really not already satisfied.

*For younger children* from about two years, a little fat bacon or “dip” on crumbled bread, or a lightly boiled or poached egg, the yolk part especially, is the best food after the porridge. The egg may be turned out over crumbled bread.

Some marmalade or honey may be useful. [*See special paragraphs.*]

**Drinks for Children.**—Milk should be the drink for breakfast and tea. It need not be boiled but can be warmed sufficiently by adding hot water and sweetened with sugar. It can be flavoured with a very little tea or coffee; but strong tea or coffee is not advisable for nursery meals.

Cocoa is much liked by some children and has none of the objections of tea or coffee. It should not be given strong, for it is sometimes a heavy and bilious drink for children.



A little milk is also the best drink for early lunch and supper, but it should only be given if bread and butter or biscuits form the solid part of these meals.

It is important to remember that milk may not suit all children, as it sometimes has a constipating effect. For dinner, *water* is the best, and milk should not be allowed unless there be some special reason. It is a food in itself and the curd which is formed from it in the stomach takes up a considerable amount of room. If a child is a small eater milk may help to make the food taken more substantial and may be useful in this way. It is not a good drink for children with good appetites. [See "Drinks with Dinner."]

**Bread.**—White bread, a day old at least, is better than new bread. The latter, however nice it is, is not so good for children. The advantage of stale bread is that it is firmer and drier, and requires more chewing before it can possibly be swallowed, that is, if the child be not allowed to wash it down with a drink. The more the bread is chewed the better is it prepared for after digestion. New bread being soft and moist, especially when buttered, slips down easily, and lies "heavily." In the sticky

masses it cannot be acted on by any of the digestive juices and will probably cause intestinal disturbances.

The crusts of bread contain some of the most nourishing parts of the flour, and children should eat them, chewing them well when their teeth are good enough for this. They should not be bolted in lumps. [*See Teeth.*]

White bread should be made with the best household flour, for it is then sweeter and more palatable and more wholesome than that made with the best white flour. Good home-made bread made from this flour is readily eaten by children.

Brown bread in any of its forms is most wholesome. This also should be at least a day old before being eaten. Many brown breads are unpalatable and not appreciated.

Wholemeal bread is very good but it is "stodgy," and a little goes a long way. Hovis bread is one often eaten with pleasure, and it is very nourishing. Brown breads contain more frame-building materials than white bread and they also have an indigestible residue which acts as a stimulus to the bowels and tends to relieve constipation.

**Toast.**—Children generally are very fond of dry toast and butter, and it is a good food for them

if made properly, that is from a loaf a couple of days old. It should be made from bread cut about one-third of an inch thick, and made crisp and eaten fresh and before it has got flabby. If toast is made with fresh bread there is generally a layer of soft doughy bread sandwiched between two thin outer crisp layers. Such toast is too soft for good mastication and insalivation and is generally swallowed in lumps.

Apart from its nutritious value, good toast requires a good deal of mastication and this is good for developing the jaws and also for keeping the teeth clean.

Freshly-made, crisp, hot buttered toast is good for older children, but if the butter has soaked into flabby toast the fat prevents proper digestion of the starch.

**Eggs.**—Most children like eggs cooked in any way and they are a very wholesome food. They must be fresh, of course, any egg with taste or smell being very liable to cause digestive disturbances. The yolk of the egg is mostly a phosphorized fat and is very good for rickety or badly nourished children.

But whilst most children like eggs, some do not,



and it is no use forcing them to eat eggs. For some people are peculiarly susceptible to ailments arising from their consumption, whether they be eaten as eggs or in custard or cakes. The child may be made sick by the egg or eczema may break out. In some cases it is the white which disagrees and the yolk may be eaten with impunity.

**Porridge** is a good food for regular breakfast consumption. The exact form varies with different tastes. If the ordinary oatmeal be used a medium or fine variety is better than the coarser kinds. Many children do not like the peculiar flavour of oatmeal but will readily take one of the more expensive, because widely advertised, partially prepared forms of oats or wheat. These when properly cooked and eaten with milk and sugar are very palatable. Golden syrup instead of the milk and sugar is quite good. Some children like the prepared foods which only require the addition of hot milk before being eaten.

Bread and milk is a good change of diet, and if given two or three times a week lends variety to breakfast and prevents one regular dish from becoming disliked.

**Common Salt** is a necessary article of a child's



diet, and its use in moderation should be encouraged. Food without it is often tasteless.

**Lunch.**—If a child has its breakfast at 8 and its dinner is not due until 1, it is ready for, and ought to have, a little lunch about 11. For children who will take it then fruit is good, because given on a fairly empty stomach its aperient action is probably more marked. A small tumblerful of milk and one or two plain biscuits, varied from time to time, or a savoy biscuit is generally quite enough for children. Whether the lunch is really needed or not can be seen at once by the way dinner is taken. If appetite is then deficient the lunch should be decreased in amount or discontinued altogether.

There is nothing more harmful to a child's digestion than to let it take more food into a stomach which has not already disposed of the previous meal, for stomachs like every other organ in the body, and like the whole body itself, require some rest.

**Dinner.**—This is the most substantial meal of the day for a child. It should be given about 12.30 or 1 o'clock. Nicely cooked flesh food, vegetables and light, plain puddings ought to form this meal. Children should not be allowed to eat too much

meat, especially if eaten hurriedly, or at the expense of vegetables.

**Meats.**—A slice from a joint, a cutlet, or a chop are the best red meat foods for children. The meat should be tender, and not freshly killed, and the joint or chop, if roasted, should not be over-done, but if a joint be boiled it should be well boiled. The gravy of underdone roast beef or of a chop mixed with potatoes is as good food for children just beginning a mixed diet life as can be found, but older children often do not like red, underdone meat.

For children cuts from the joints should be thin so that mastication is made as easy as possible, and for those just beginning with meat, the slice should be cut up well. Even when this is done the child should be taught to use its grinding-teeth and get it in the way of dealing with unminced food. It should not be allowed too big a spoon—a teaspoon is quite big enough, and hurried eating must be guarded against.

A lightly cooked tender chop or cutlet is much appreciated. Steak is as a rule much too heavy a meat for young children. It is too solid and often too tough and requires a great deal of chewing.

If bolted it will be likely to cause colic. But if fresh steak is well minced before it is cooked it is excellent and much liked.

Salted beef and pork are not advisable ; they are heavy foods for the nursery. The fat of ordinary pork is not so digestible as that of bacon.

Tender veal is a favourite food with many children, especially when served with some mild bread, lemon and sage stuffing and a little fat bacon. There is no harm in it occasionally as a change. It must be well cooked. It is rather a tasteless food by itself and does not stimulate digestion by its palatability like other meats do.

**Tripe** is also often a favourite food with young children. It must be fresh and care should be taken, especially in hot weather, to see to this, as it quickly goes tainted. It should be boiled in milk, with or without an onion to flavour it. When good and well cooked it is very tender and agrees well with most children. The honeycomb part is the most tender.

Liver is not so good. It is a "stronger" food, goes bad easily and nursery children are better without it, as they also are without kidneys.

**Meat Fat.**—Some children like a little beef fat



with their lean meat, and that of the sirloin is best. Burnt fat is not good for any one, let alone children. The fat of mutton is much stronger than that of beef, and much more likely to upset a stomach. It certainly is not good for children.

**Poultry.**—Chicken and turkey, roast or boiled, and, if boiled, nicely dressed with white sauce, are excellent foods for young children. They are better than butcher's meat.

Ducks and geese are much richer foods and not advisable.

Fresh pheasant, partridge and guinea-fowl are quite good.

**Rabbits and Hares.**—If young and fresh and children like them they may be eaten without any likelihood of objectionable results. Care must, however, be taken over the small bones which occur in rabbits and hares, for the swallowing of one of these may cause serious trouble by sticking in the throat. Trapped rabbits are not as safe as those which have been shot as they may have been dead in a trap too long and have gone stale.

**Fish.**—White fish of the common varieties is unexceptionable. Flat-fish, codfish, whiting are the best. The coarser fish such as hake are not



advisable. Halibut is rather tough for children. One difficulty with some fish, e.g. herrings, is the bones, and children are better without these bony fish. There is a considerable risk of bones sticking in the throat. If children can manage the bones and are given herrings they should be taught to remove the brown fat which lies along the middle of each side. This is very strong and often disagrees, even with adults. The same applies to mackerel. Care must be taken with the bones of any fish for young children.

Salmon is a rich fish and young children are better without it. Finnan haddock boiled in milk and then pounded fine and potted with butter is much liked by children.

**Twice cooked meat** such as hashes or minces is not as wholesome for young children as dishes made from fresh meat. Nor are entrées, or made-up dishes as digestible as flesh foods cooked in the ordinary way.

**Stewed meats** are also not as good as plain roast or boiled food.

Cheese is not a necessary or advisable food to give to children in their nursery days. It is often very indigestible.

**The Cooking of Food for Children** requires as much skill as the preparation of an elaborate dinner. So much depends on the various dishes having their own proper flavour and not that of the common pot or saucepan. Some people cook almost entirely in fireproof porcelain dishes, and probably with the best results, for such material, with its glazed surface, is much easier to clean thoroughly than any metal dish. The digestive processes begin, or fail, at the sight of the food, and there is no better aid to them than appetizing-looking dishes.

**The Cooking of Fish** is a most important factor in its value for children. Boiled fish, except codfish, is rarely appetizing, but children do like boiled codfish and the tail end is generally best, bearing, as it does, the smaller meat fibres and being the most tender part. Even the smallest fish eaters can take this. It wants some parsley or egg sauce to increase its palatability.

The most satisfactory way of serving fish is to have fillets made from plaice; lemon, Scarboro', Dover, or whit soles; whiting or young fresh haddock. The flat fish are practically boneless and therefore so much the better, but in whiting and haddock the bones are big and can easily be removed

for the small children. There is always skin left on one side of a fillet and this should not be eaten, as it is very tough and indigestible. Fillets are usually fried, and when done properly they are very good. But they must be fried properly, in good fat, and, best of all, in a properly heated fat-bath. They must not be served with redundant grease about them which messes the plate. It is a very excellent plan to enclose the fillets in a thickish case of batter before they are fried, and then this can be slit up and the fish taken out. The fish is then juicy, and not dry, and very tasty. There is no better way of cooking fillets of fish for children than in paper bags. By this method of cooking the fish is "clean," quite free from grease and it retains all its natural juice, and is very tender. It is the best way to cook fish or cutlets for very young children and for invalids.

Another good method of cooking fish is to steam it in milk between two plates, the plates being put on a saucepan which is allowed to simmer on a fire which is not too hot. The milk acts as a gravy.

Fish cakes are a good variety for children if they are made properly—with fish that has not



been cooked previously by preference—and fried in a clean fat.

**Soup.**—A little of a well-made soup is often much enjoyed. But it must be a well-made soup—not merely the mixture of gravies from various dishes, thickened with flour. Clear soup is the better and not much, not more than a few table-spoonfuls, should be allowed as the first course of a meal. A little soup stimulates, but a lot impedes digestion. A good mutton or chicken broth with vegetables in is much appreciated, as is also a soup made with a milk basis.

Beef or veal tea, and chicken or mutton broth, in which there is no meat or vegetable residue, are very wholesome additions to other food, but contain practically no frame-forming material in themselves. They are more useful in the second year of life, and in sickness when the child wants some easily absorbed food which leaves no residue, and when the stomach wants some refreshing and stimulating and easily digested food. Some Plasmon powder, which is dried curd of cow's milk, may be added to these broths to make them more substantial.

**Vegetables.**—*Potatoes* are most wholesome and nutritious and equally good if cooked in the pot



or oven without or with their jackets. Like all other starchy food they should be well broken up before being swallowed, either in the mouth by the teeth or mashed on the plate. Boiled or baked jacket-potato mixed with good meat juice gravy, is one of the first adult foods a baby takes after its bottle days.

Fried potatoes are also a good change if they be not too greasy or baked too hard. Most children are very fond of potatoes cut into two and baked in the same dish with a joint.

Chip potatoes are more suitable for older children, for they are often very crisp and require a good deal of chewing.

Soft, tender new potatoes are good, but waxy ones are not.

When eaten with hot joints the gravy makes the potato more appetizing for children, and when there is no gravy some butter may be added on the plate, or the potatoes may be mashed previously with milk and a little butter added.

Warmed up potatoes, if fried in good fat, are much liked by older children and are good, though not so good as freshly cooked ones.

*Green vegetables* are very wholesome and neces-

sary and they should be well cooked and served in a palatable way so that children will like them ; butter often improves them very much. They leave a good deal of undigested residue which aids the movement of the bowels.

Fresh tender cabbage is often as much enjoyed as any vegetable. Spinach, lettuce (boiled), Brussels sprouts and beans and peas, when young and tender, are all good. Hard peas are not good as they are difficult to chew and in the intestines act as foreign bodies, causing colic.

Haricot beans soaked and boiled, with some tomatoes to flavour them, are wholesome.

Boiled cucumber and vegetable marrow, served with some oiled butter or white sauce, are much liked. Fresh, young, tender cauliflowers are also good, but old, tough, stale ones are bad and certain to produce wind.

Tomatoes, roast or stewed, or sliced and baked in layers of bread with some butter and salt are very much liked by many children and are wholesome and appetizing. When sliced and made into sandwiches they are pleasant for tea and are wholesome. They should be peeled before being eaten.

Boiled small Spanish onions of mild flavour are excellent, but fried onions are not good.

Carrots and mild flavoured turnips when young are good. Unless very tender they are better served well mashed, as otherwise they are likely to be swallowed without much mastication, and in such a state remain undigested and may cause indigestion.

A little asparagus is much appreciated as a treat and if used as such is harmless. Asparagus kale, seakale, boiled celery and artichokes are all very good.

Salads, that is raw lettuce, radishes, cucumber or onions are not good for nursery children, nor are pickles or beetroot.

**Puddings.**—Milk puddings form the staple second course of most nurseries. They should be made of unskimmed milk, when they are much nicer than if the cream has been removed. The addition of an egg or two makes an agreeable change. The smaller forms of tapioca and sago ("pearl") are better than the larger ones. Rice may be ground for a change. Wheat crystal is a good material for making a mould for summer use as it makes a nice variety.

Baked custard is of course also a milk pudding and a good one.

Cup custard is very wholesome and generally much enjoyed by the youngest child.

Steamed or suet puddings are good for older children if they are properly made. They should be light and not sad or sticky, and not too sweet.

Pastry is not good for young children, but a little plain pie crust of the bready kind and not of the puff pastry kind may be given to children of seven or eight.

Blancmange, isinglass moulds made with unskimmed milk, and jelly are all good. A very favourite pudding in the summer time is one made with the strained juice of cooked fresh fruit stiffened with gelatine and set in a mould. Another is made with savoy or sponge cakes which have been split and made into jam sandwiches, and then covered with boiled custard.

Apple charlotte, batter puddings, pancakes are all wholesome for children from early years.

**Junket.**—There is no nicer light pudding food for nursery or school children than junket. It is especially good in the warmer months. It is eaten with some form of stewed fruit and nearly all



children from a couple of years of age enjoy it very much. It is a cool food in the summer. It is made by adding a good essence of rennet (as in making whey) to milk warmed to about body heat (98° F.) in proportions stated on the bottles of the rennet. The milk may be previously sweetened slightly with sugar, but children rather prefer to add the sugar themselves. After the rennet has been well stirred into the lukewarm milk the mixture is poured into the dish it is to be served in, or else into custard glasses and then put aside to set. When cold the junket is ready. It can be dusted over with cinnamon powder to give a flavour as a change. It is of a fairly firm consistency and looks well when served from the large bowl in spoonfuls. Young children especially like to have it in glasses, the importance of helping themselves adding to the pleasure of eating it.

Junket may be given when children are off their food, or recovering from an illness, as it is very digestible.

**Drinks with Dinner.**—For dinner good water is by far the best drink, and half a tumblerful of it is enough for most children. Milk is not a good drink with dinner, as it is a food in itself and when

acted on by the gastric juices forms masses of curd. No beer or wine should on any account be given to children. Sweet effervescing waters are much liked by most children, but owing to their palatability there is a great tendency for too much of them to be taken. In summer weather a still lemonade or lime juice without too much sugar in it is more refreshing than water and is harmless in moderation.

As stated on another page the child should not be allowed to wash its food down with gulps of fluid. It should drink between helpings or after courses.

In summer weather children want a good deal of fluid between meals and there is nothing better for them than filtered water. It should not be iced.

**Tea.**—If dinner is at one o'clock, five is soon enough for tea; it certainly should not be given before 4.30 because many of the various articles eaten at dinner will not have left the stomach before three hours have passed. If children seem ready for tea at 4.30 and take it well, they can have it then, but if they don't, then five should be tried.

The main article of diet for tea is bread and butter.

It is a very good plan to make healthy children begin their tea with a piece of plain bread and butter. This acts as a damper to any tendency to eat too much jam and cake, which by their sweet, appetizing taste encourage the intake of more food than is necessary to satisfy hunger. Smears of jam on bread and butter are enough for children of a few years old, too much jam not being good for them. After two or three slices of bread and butter with jam on, if a child wants more it is a good test of real appetite to give another slice without jam. If this is not wanted the appetite is probably satisfied and the child is better without feeding its palate at the expense of its digestive powers.

With children with good appetites the bread should not be too thin, but at least a quarter of an inch thick. Plenty of butter is wholesome, and the most appetizing butters are those with a little salt in, namely the best Irish or Kiel brands. The so-called fresh butter of the London households is often very tasteless and insipid. There is, however, nothing better for children than good home-made fresh butter.



**Cakes.**—Plain well-made cakes without currants or raisins are best for children. Sponge, ground rice and Madeira cakes, and sponge jam sandwiches, are good. They should be free from any taste of lard or fat, which home-made cakes are not always innocent of, and should be light. Many children will not touch cake made with currants or sultanas. Of the two the former are not as wholesome as the latter, because they are smaller and not so easily masticated.

Cakes with much sugar icing are not desirable, for the child gets plenty of sugar in other forms with its tea.

Some mothers only allow jam *or* cake with the bread and butter for tea, Sunday being an exception when both are allowed. This is a safer way to keep children well than allowing both every day.

If both jam and cake are allowed regularly the amount of each eaten should be moderate.

**Jam.**—Some children eat a lot of jam and apparently with impunity; others cannot manage with much and are made ill by it. For the nursery tea a smear over the bread and butter is quite enough. Older children can take more.

**Honey** is much liked as a rule. It, too, should



only be taken in moderation. It may have some slight aperient action.

**Golden syrup** is also supposed to have a helpful aperient action. It is quite good.

**Marmalade** is very wholesome. Some like the jelly form, others that with more peel in. By custom it has almost entirely been relegated to the breakfast table through its supposed virtues as an intestinal stimulant when taken early in the day. It is doubtful if children want it, after a mixed meal with bacon, etc., but a small amount then will do no harm, if the child is still hungry and does not eat it only because it is jam. When it really acts as a laxative it should be used. It is very good for tea also.

**Supper.**—When children have their tea at half-past four or five o'clock and go to bed at six or seven they will not need much supper; but a biscuit or two and half a cup of milk will prevent them getting hungry in the night. Not much fluid should be given then on account of likely troubles of bed-wetting.

As stated in the paragraphs about sweets and teeth (q.v.) it is unwise to give a meal of sweet biscuits or a chocolate after the child has had its

teeth cleaned. The teeth should be cleaned the last thing of all and the mouth well rinsed out to remove all traces of sweet biscuit or sugary material from the teeth and prevent the encouragement of decay which such sugary food induces.

**Fruit** is necessary for all children. Some grape or orange juice may have to be given to a bottle-fed baby if it is constipated, and must be given if it is being fed on a proprietary food or sterilized milk, otherwise there is a risk of scurvy developing.

*Bananas* are very wholesome when properly ripe, which they are not, as often sold in England. A ripe banana should have a golden yellow skin with no green on it and the fruit inside must be soft enough to allow of its being cut with a fork with very little pressure. It must neither be too hard nor too soft, and brown, bruised or over ripe fruit is not good for children. A child of a few years old can eat such a banana easily, the fruit breaking up in the mouth even from pressure with the tongue only. For younger children of two years or so the fruit can be scraped with a spoon and then given.

Green skinned, hard bananas are indigestible and may easily upset the nursery child.

*Apples and pears* when sweet, sound, and tender are very good and much enjoyed. When sour, hard or over ripe they are likely to cause digestive troubles.

*Strawberries* when ripe and sound are wholesome, when taken in moderation. Plenty of bread and butter should be eaten with them.

*Oranges* are most useful and healthy, but the child should not eat the pulp, which is quite indigestible. For one and two-year-olds the juice alone should be given, sweetened if necessary. The pips should, of course, not be swallowed by any child.

*Grapes* when sweet are much enjoyed. For the youngest children they should be skinned and stoned, and the older ones should be taught to do this for themselves, and not to swallow the skins and stones.

*Stone fruit* of any sort when sound and ripe is good if allowed in moderation, but if under- or over-ripe will cause trouble.

*Stewed fruits.*—Apples, rhubarb, sound plums, are very wholesome, as are also baked apples. A very good way to bake an apple is to core it, unskinned, and into the vacant space put a piece of butter the size of a marble and fill up with brown



sugar. Serve in the dish cooked in. The apple not only gains a nice flavour from the butter and the sugar, but the syrup which collects in the dish is also very good.

In the winter when fresh fruits are unobtainable home-made bottled fruits are very useful. Tinned fruits are not as reliable as those put up in bottles.

Apples and prunes are, however, the staple fruit for stewing. Stewed prunes, especially the sweeter forms, are much liked.

Fruit with many seeds in may cause digestive disturbances. It is therefore advisable to give at all times black, red or white currants, raspberries, and blackberries in moderation, and to withhold them if they become suspect. Excellent moulds can be made of the juice of these fruits, added to gelatine or isinglass.

Ripe gooseberries are also to be eaten with care when raw, and the skins, which are specially tough, should not be swallowed.

**Sweets.**—The bad effect which certain forms of sweets are said to have on the teeth is referred to under the paragraphs on the care of the teeth.

If dentists had their own way they would only allow sweets in strictest moderation, especially



for children with bad teeth, and even then not between meals. They would further have the dangerous sweets given before the end of a meal, the last course of which should be fruit, because the juices left by the fruit tend to destroy decay-producing micro-organisms. If chocolate and caramels be eaten between meals the mouth and teeth should be well rinsed out with water. Acid drops, gelatines, barley sugar are the least harmful, but neither the first nor the second are very tempting, and the last has not the fascination for the palate that the forbidden sweets have. It would need a race of stern mothers to carry out such a system of Spartan rules, but probably the teeth would be better for them.

It would be well, at any rate, to limit strictly the amount of sweets consumed and not to allow them to be consumed *ad libitum* from stores in the child's own keeping. Not only do they have the harmful effect on the teeth, which is more marked when the teeth are bad, but they are certainly the cause of much derangement of the stomach and of bilious attacks.

Chocolate, caramels, toffee and the other sticky dangerous sweets should not be given last thing

at night as a sedative for sleep, unless the teeth be cleaned and the mouth well rinsed out afterwards. Some part of them is sure to stick about bad teeth, or teeth which are too close together, and give the germs a great chance of injuring them during the long hours of the night. If any sweet be given at bedtime barley sugar is the least harmful.

**Food for School Children.**—Children at school will be none the worse if their food is ordered much on the same lines as these suggested above for their younger brothers and sisters.

## CHAPTER XV

# Attention to the Calls of Nature in Older Children

**The Bowels—Bladder, Bed-wetting, Weak Bladders—  
Cleanliness in Boys.**

**Attention to the Bowels.**—Children in the nursery age must be made to give their bowels a chance of acting regularly every day after breakfast, whether they want to or not. They should be made to use a chamber for the first few years so that the motions can be seen and anything unusual in them recognized. The motions may be scanty and hard, profuse and watery, white or clay coloured and foul-smelling, or there may be worms present, or evidence of undigested food. Digestive or intestinal irregularities may then be recognized at once and treatment in time saves many ailments. If there are worms they must be got rid of ; if the motions are white and hard and,

as they also generally are in such a case, foul-smelling, an aperient followed by a stomach mixture for a couple of days should be ordered; if there are signs of certain foods being undigested, the diet should be corrected.

There is one rather rare but most important condition which is recognized chiefly by the passage of very copious, foul-smelling stools, namely deficient digestion by the pancreatic juice. Such children are always undergrown for their age and feeble in health. Much good can be done for them if the condition is recognized, and it should never be overlooked.

When a child's motions are loose and watery the possibility of its being really constipated must be borne in mind. If the sigmoid flexure and the rectum are full of hard "marbles," the fluid contents of the greater bowel may pass down amongst them and so set up a spurious diarrhœa. In this case the hard masses will be felt in the left groin and a dose of castor oil will cure the diarrhœa.

Another reason for putting a child, until a few years of age, on a chamber is that the low seat places it in the most natural position for evacuation of the bowels—namely the "squatting on the heels"



position. This position, by bringing the thighs up against the abdomen, affords support to two weak parts of the body wall, namely, where ruptures occur. With such support there is much less risk of a rupture developing in any child who has abnormally weak abdominal walls than the position on an adult water closet with legs dangling down. When the child uses the ordinary closet a wooden stool should be made to keep the legs from "dangling" and to bring them more into the proper position. A wooden seat with a small opening to slip over the large seat should also be provided for the child's use.

When a child is put to sit down it should be encouraged to give its attention to what ought to preoccupy its thoughts, and displace all other more interesting concerns, but it should not be made to strain unduly. Standing over it with threats of punishment if it does not "do something" is most unwise. If the bowels are ready to be evacuated, only a very little voluntary help is necessary; if they are not, any unusual amount of straining will not only do no good, but will probably be harmful. It is then time to think of some laxative.

**Prolapse of the bowel**, or the “seat coming down,” rarely arises in healthy children. When it does come on it generally arises from straining at stool in constipation or in diarrhœa. It can be corrected by suitable treatment for either condition, and as a temporary measure it should be pressed back through the seat by a pad of lint well greased with vaseline or sweet oil.

**Attention to the Bladder.**—Children, until three or four years of age, should be made to pass their water in the daytime at regular intervals, of about two hours at most. This helps in the training of the control of the bladder and saves many a wet garment.

**Bed-wetting.**—In infants and children up to about a year old the emptying of the bladder and of the bowels is a reflex act, uncontrolled by the higher centres in the brain. When these organs are distended beyond a certain extent, a nervous stimulus is set up and this passes to the centres in the spinal cord. Then the stimulus which passes up the sensory nerves is shunted at once to the motor nerves and brings about a contraction of the muscle in the organs and a consequent passing of water or emptying of the bowel. As the higher

brain centres develop they gain more control over those in the spinal cord and the time arrives when the child recognizes that it wants to relieve itself. It will then have some slight control over its organs and may be able to warn the nurse in time. If it be not attended to there will be an uncontrollable contraction of muscle and emptying of the distended organ. At a later period of life full control is gained over the bladder and the bowel and the act of emptying these organs has passed from an involuntary, uncontrollable act into a voluntary and controllable one. The exact time at which this change begins varies, but in the great majority of cases it takes place about the time a child learns to walk. But much earlier than this an infant can command its bladder and bowel to the extent of emptying either when it is put on a chamber at regular intervals, and can give some hint that it is uncomfortable.

The control of the spinal cord centres by the brain is naturally more effectual whilst the child is awake, for the child can feel that it wants attention and can give due warning. At night, when the mind is lost in sleep a sensory stimulus, which would be noticed and acted on in the daytime, passes



unheeded, and the primitive mechanism of reflex evacuation comes into play and the bed is wet or soiled. It is therefore important to see that a child empties its bladder before going to sleep, and up to four or five years of age it should be put on a chamber again in a couple of hours' time, for it is in this earliest part of the night that the fluids taken in at tea and supper are passing into the bladder. It then should not need the chamber before the morning. Bed-wetting is a much more common accident for a child, beyond the diaper age especially, than bed-soiling, and for this reason. The urine collects in the organ from which the stimulus to pass water arises, whereas the motions collect in a reservoir, the sigmoid flexure, and only pass on into the organ from which the bowel-opening stimulus arises—the rectum—at certain times of the day in sufficient amount to create a desire for evacuation. After the diaper age, this passage of waste materials from the sigmoid flexure to the rectum is most active in the early morning, and is encouraged very much by the entry of the first food of the day into the stomach—hence the common habit of the bowels being emptied after breakfast.



If the stimulus felt by the bowel to empty is attended to, the regular action of the bowels will go on. But if it be regularly neglected then the bowel becomes less sensitive to stimuli, and less able to become emptied. Constipation therefore results.

In some children who are properly looked after the control of the bladder at night is not gained until considerably later in life and for a variety of causes. A simple reason for this is when the child goes to bed very tired it falls into an unusually deep sleep in which the sensation of a distended bladder, which wakes up an ordinary person, is unnoticed and an accident happens. Another reason may be that the child sleeps on its back, in which position the bladder may require a slighter stimulus to empty than when sleep is taken on the side.

A simple plan to prevent lying on the back is to stitch a big empty cotton bobbin into a suitable belt and fasten this round the child's waist so that the bobbin will press on the small of the back if the child is lying on its back.

**Weak Bladders.**—In other children the control of the mind over the spinal centres may be deficient

in the daytime also and the child either cannot control the passing of its urine at all, or has a bladder and spinal centre which respond to unusually weak stimuli and wetting of the garments is the result. Even in normal children who have a properly developed control over their water, excitement is very likely to cause an "accident." In these cases irritating causes such as seat or round worms, constipation, a very tight or sore foreskin, etc., may be present, and if the cause be removed a cure may result. But with disappointing frequency the weakness of the bladder persists after the removal of a supposed cause. A comparatively uncommon cause of weak bladder, but one which must always be borne in mind, is stone.

Post-nasal adenoids are often looked upon as a cause of weak bladders, and it is probable that they have some influence on the condition by keeping up a generally feeble state of health, through the resistance which they throw in the way of proper oxygenation of the blood.

It is a happy result when this unpleasantness can be cured by the removal of a simple cause, but not uncommonly the weakness of the bladder is due to some deeper-seated trouble which may

resist medical treatment for several years, even to adolescence.

**Prepuce.**—With boy children it is necessary to see that the secretions which collect under the foreskin are washed off regularly. If this is not done irritation leading to inflammation or ulceration will ensue. This important part of a child's washing should be attended to at every bath time and older boys, who wash themselves, should be taught to do it themselves regularly. The foreskin generally can be retracted easily to allow of this, but it may be too tight and then it is necessary to have a small portion of it removed. The operation of circumcision used to be done unnecessarily often and too much of the redundant skin removed.

## CHAPTER XVI

# Minor Disorders of Feeding in Older Children

**Indigestion — Bilious Attacks — Persistent Vomiting —  
Starch and Sugar Indigestion—Headache.**

**Indigestion.**—If a child, old enough to be on a mixed diet, who, as a rule, takes its food well, shows want of appetite, picking at its food, having only one helping instead of two, or especially if it misses a meal, it is almost certain that it is unwell, and the probability is that its stomach is out of order. In such a case judicious starvation is advisable and a dose of an aperient medicine ought to be given. When this has acted well, the child, in the majority of cases, will be quite well next day. Many mothers and nurses think that because a child has had its bowels opened daily that it cannot be constipated, but the daily motion often is deficient in amount and an aperient is necessary to help things



back to better ways. Want of appetite, peevishness, restlessness at night are good indications of the necessity of an aperient.

**Bilious Attacks.**—Frequently, however, the stomach disturbance is not indicated by want of appetite, and is probably not noticed. Even if noticed the child is encouraged to eat its usual amount. The next thing, then, will be an attack of vomiting, often sudden and unexpected, either during the day or in the night-time, in which a large amount of sour, undigested food is brought up. The stomach empties itself in one or two attempts and no more trouble arises. It is no use giving an aperient for a few hours as it may cause another attack of vomiting, but one should be given before any food is allowed. This, and twenty-four hours on soda water and milk starvation will, probably, put the child in a condition to begin with light spoon food again.

**Colic.**—With these true bilious attacks there is no pain, and it is most important to note this, for if a child is subject to recurring attacks in which vomiting occurs and there is stomach ache as well, it has in all probability something wrong with the appendix and this must be treated properly,

probably by operation. Very few children suffer from such attacks from eating food that has disagreed with them. When such repeated attacks occur, it is unwise to give an aperient on the supposition that some indigestible food has caused the pain and sickness, unless there is unmistakable evidence to support this view. Some eminent surgeons think that much harm is done in cases of appendicitis by giving a purgative.

A doctor's attention must always be directed to any recurrent attacks of "stomach-ache."

**Recurrent Attacks of Vomiting.**—Instead of the vomiting ceasing after the stomach is emptied, in some children it goes on for two or three days or even more, even sips of water coming back again. There is obstinate constipation in these cases, and attempts to relieve it by medicine given by the mouth only increase the vomiting. The breath is foul and the temperature may be raised. In these cases the best thing to do is to try and get the bowels to act by an enema of soap and water or glycerine and to give bicarbonate of soda by the mouth in as large quantities as the child can take and also by the bowel. But no food will be taken and the child becomes much

reduced in strength. Then the sickness passes off and food is soon asked for. The enemata of bicarbonate of soda may help to move the bowels, and when the sickness passes off this can be helped by giving calomel in small doses ( $\frac{1}{6}$  grain) repeated hourly.

These cases are serious and must be treated by a doctor.

**Starch and Sugar** indigestion is a troublesome condition in some children. It is generally associated with a high temperature ( $103^{\circ}$  F.) and recurs from time to time. When a child is subject to such feverish vomiting attacks the diet should be carefully investigated and it may be necessary to cut off all jam and pastry to prevent them.

**Headache.**—No child that is quite well should complain of headache. Headache may be due to many causes, trivial or serious. When it arises only occasionally the stomach probably is at fault, and a dose of opening medicine will set matters right. Other simple and removable causes are sleeping in a stuffy bedroom, over-work at school, post-nasal adenoids, and anæmia. Whenever headache is persistent the doctor's attention must be drawn to it.

## CHAPTER XVII

# Disturbances of Sleep

Dreams, Talking in the Sleep—Night-terrors—Sleep-walking—Snoring—Constant Cough—Light in Bedroom—Timidness : Frightening Children.

Dreams, disturbed sleep, talking in the sleep, grinding of the teeth are most commonly due to some irritating materials in the alimentary canal, and the most likely source of this irritation is indigestible food which has been taken some time in the day—not only at supper time. Constipation is also a very likely cause and intestinal worms, whether the small seat worms or the larger round worms. Tape worms are not common in England, especially in children. At any rate, a dose of castor oil or some aperient must be given and the motions inspected. If there are no worms the diet is probably the cause of the nightly unrest and this must be corrected. [*See “Teeth-grinding and Worms.”*]



If a child is subject to dreams the greatest care must be taken to see that it gets food which leaves non-irritating residue, not only at supper or tea, but at any meal, because food in the large bowel may irritate and cause disturbance at night as well as food in the stomach or small intestines. It is a good and safe rule if a child is found to be restless and talking at night to give an aperient and clear out the bowels. Dreams, then, are often due to errors in feeding, either in the way of the eating of indigestible food, which, no matter how well it is masticated, leaves irritating residue, or in that of bolting ordinary wholesome food.

By a diet on the lines laid down for nursery consumption and with proper attention to mastication, with due allowance for any peculiarities on the part of individual children, disturbances of sleep will probably be avoided.

**Night-terrors.**—Some children from about three to eight or more years of age are very subject to recurring disturbances at night in which, within an hour or two of getting to sleep, they wake up screaming and in a great fright. They may be able to tell something about horrid faces staring at them or they may be unable to say what has

frightened them. For many minutes, even half an hour, they continue to sob and cannot be quietened and beg not to be left alone in the room. Eventually they calm down and drop off to sleep again, and usually without any recurrence that night of the terrors. The condition is different to the fright of a child who wakes up in a dark room or from that of ordinary dreams. It may occur in quite healthy children.

One common cause of night-terrors is the semi-suffocation which results from the blocking up of the respiratory passages by post-nasal adenoids or, to a less degree, by large tonsils. The imperfectly oxygenated blood acts as an irritant to the brain and stimulates it into the semi-conscious imagination of vague, unreasonable and terrifying ideas. Sleeping in a stuffy, badly ventilated room, or with the bedclothes over the head may also bring on attacks.

Another cause of night-terrors is when two children sleep in one bed, and lying close to each other and face to face, inhale exhaled breath which may not be as sweet as could be desired. The cure for this, of course, is separate beds, and all children are better in a bed of their own.

Any pain, such as earache, or a springing tooth will cause the child to cry out in a more or less sleepy way.

If healthy children are liable to have their brains stimulated by irritating causes, those that are feeble in health are much more liable, and rickety children, and nervous, excitable children are specially prone to these night disturbances, the former from an unduly irritable digestive system, the latter from unstable nerves.

There is also another common source of night terrors, namely a nurse who frightens children by threats of policemen or bad men running off with them, or a vague but horrid "something" under the bed which will catch them if they get out of bed, or one who is unkind to, or beats them. A cat jumping on the bed may also frighten a young child badly. Unpleasant or exciting sights of the daytime, or incidents in unsuitable story-books, may reappear in exaggerated form at night, to disturb the sleep.

All the causes of dreams may also be responsible for attacks of night terrors, and the diet of a child who is subject to them should be carefully supervised.



Over-study, especially in a child that is keen at its work, often advanced beyond its age, and of a nervous temperament will almost certainly bring on restless nights.

**Sleep-walking** in its milder forms, such as a child getting out of bed in a dream, may be due to any of the causes which disturb sleep. In its more marked form, in which the child walks from one room to the other, over-study may be the cause, or there may be no apparent reason for it. It does not begin much before six or seven years of age, and may go on to thirteen or more.

The way to deal with it is to fasten the child securely, but safely, in bed, and this is best done by a broad belt round the body which is fastened to a bandage which is firmly tied around the bed and lower bedding, allowing, however, plenty of freedom to the child to move about in bed.

It is also a good, and a simpler plan, to fasten the child's foot by a broad bandage to the bedstead, again leaving enough freedom for the ordinary movements of bedtime.

If **snoring** or sleeping with the mouth open is noticed to occur constantly, the doctor's attention should be drawn to it because it is almost certain



to be due to some obstruction in the nose or behind the nose (post-nasal adenoids) and an operation may be necessary for its relief. Children with such an obstruction to the entrance of air into their lungs are generally pale and often of feeble health because they cannot get enough air into their lungs. They are also very liable to coughs and colds.

A **constant cough**, especially a short, dry night cough, is very often due to something wrong with the back of the mouth, either large tonsils, long thin uvula, or excessive growth of the mucous membrane lining the backmost part of the mouth. Any one of these causes must be removed before the cough is likely to stop.

**Light in Bedroom.**—With young children, up to five or six years old at least, a small light should always be left in the bedroom, so that if they wake up they may not feel lost in the dark, which is very likely to happen, especially in the peculiar state of semi-consciousness which is often present in any one, even in adults, on waking after an hour or two's sleep. If there is gas in the room this can be turned very low, or with electric light a specially constructed very low candle-power lamp can be used. A well-shaded wax night light

is as good and useful as anything. The light from a landing, through the open door of the bedroom, will also be quite sufficient.

**Timidness : Frightening Children.**—Whilst some children are more timid than others most children can be easily frightened in their earliest years, and much harm, or good, can be done to their natures by forgetting or remembering this. Every possible care should be taken to avoid frightening children, and much patience or gentle management or humouring is often necessary to remove from a child some dreaded idea, or to avoid the recurrence of some event which may frighten it. For instance, no child should be left alone in bed in a dark room if it shows any sign of fear ; its room should be lightened in one of the above-mentioned ways. Most children also are perfectly happy if they have some bedfellow in the shape of a doll or animal which, though inanimate to their parents, has a distinct living personality to the child—even until the age of six or seven years. But a small amount of light in the bedroom as well is also necessary.

Then a child may be frightened by a dream and will not sleep with its cot in a certain position. One child dreamt that a white leopard came out

of the wall at the head of its cot and for months would not go to sleep unless the foot of the cot was turned to the wall. This was readily allowed and in course of time the child grew out of its idea and would sleep in the original position.

Another child, for some reason or other, became frightened of the big bath in the bathroom, and screamed and trembled all over if attempts were made to put it in. So for some weeks a footbath was used and after watching the other children enjoying their splashings in the big bath—and having been allowed to forget its objection, took to it again willingly.

There will be scores of other similar incidents of fright that mothers could tell of, which humouring or sympathetic reasoning has cured after severer measures have failed. If a strong-minded mother or nurse tries to force the supposed evil spirit out of the child by firm measures the child's life for the time is made miserable and its timidity is increased both then and afterwards. [*See Seaside bathing.*]

## CHAPTER XVIII

### The Teeth

**Cutting of Teeth—Teething Ailments—Lancing Gums—  
Appearance of the Teeth—Decay in Teeth—Import-  
ance of Chewing Food in the Development of Teeth—  
Earache.**

**The cutting of teeth**, which begins about the sixth or seventh month, as a rule, causes more or less tenderness of the gums and discomfort to the baby, the latter being shown by the fingers or some hard, cool object being constantly put into the mouth. There may be nothing but a little redness or swelling of the gum over the erupting tooth. In some cases, however, the cutting of teeth is a more painful process, the gums being so sore that the baby will not allow anything to go into its mouth. It is important to remember that the pain of a new tooth often comes on some two or three weeks before the gum is cut through, and is due to the perforation



of the harder, more resistant membrane of the tooth sac underneath the part known as the gums. This fact is of practical importance in the few cases when the question of lancing the gums arises. Thus, I have known a gum to be lanced occasionally over an erupting tooth for manifest pain, but, instead of the tooth appearing at once, it was two or three weeks before it was cut.

**Teething Ailments.**—Some doctors maintain that teething, of itself, does not produce any disturbances of health, and that nothing more than the actual discomfort from the painful gum is due to teething. They argue that infantile ailments, such as bronchitis, stomach troubles or diarrhœa, are so liable to occur during the many months in which teething is going on that when they do occur it is unreasonable to attribute them to the teething ; in other words, that the two conditions occur together merely as a coincidence. But no doctor who has watched closely the eruption of teeth in his own children can have any doubt that teething may cause general ailments. It is a commonplace fact that any painful tooth or soreness in the mouth of an adult will cause salivation and secondary gastric disturbances. Who can enjoy a meal if

he has a tender tooth or inflammation about a tooth, and who does not suffer from discomfort and "indigestion" after he has taken a meal then? It is the same with some babies when teething, for the jaw is sore, there is pain when it is touched and there is salivation. Food, even milk, taken under such circumstances is very likely to be undigested and to cause sickness, diarrhoea or constipation. It is probably better for the baby if it refuses part of its food until the pain which is present passes off, which it will in a day or two, for it will be saved digestive disturbances.

**Feverishness** also often accompanies teething and the baby is fretful and restless, sleeps only by fits and starts, and often cries out in pain.

**Bronchitis** is often put down to teething, but probably many times incorrectly. It is, however, quite likely that the soreness of the mouth may act reflexly on the blood supply of the bronchial mucous membrane and cause some inflammation. A condition of false bronchitis occurs more commonly in teething, especially during bedtime, and this is due to the saliva that is in excess passing back into the throat and causing frequent coughs. There is

little or no feverishness in these cases and no signs of bronchitis heard over the lungs.

A very useful, simple and harmless mixture for these cases of mild bronchitis is composed of one teaspoonful of ipecacuanha wine, one of sal volatile and three of glycerine in a small cup of water, and of this one teaspoonful can be given every hour. Half this dose is enough for a baby under six months of age.

**Nervous symptoms**, such as convulsions, may occur in children with unstable nervous systems if the teething is unusually "hard" and painful.

For all these secondary troubles of teething it is well to clear the bowels with a suitable aperient.

**Lancing Gums.**—Some children manifestly suffer so much when cutting teeth that the anxious mother wishes for something to be done. It is a good plan to have the gums gently rubbed with something smooth and hard and suitable for a baby's mouth. The handle of a small paper knife, the ivory ring of a rattle, are excellent, and with these a tooth may be helped to cut through in its last stages. Eye-teeth and incisors, especially, may be helped through in this way, the child liking the

gentle rubbing and apparently feeling relieved by it.

There are a few occasions, however, when a small puncture of the gum over a cutting tooth relieves a suffering child immensely. One baby's mouth was so sore that it would not touch its bottle all day, and had been feverish, and restless all the previous night, in addition to having been manifestly uncomfortable for a few days previously. A slight puncture was made with the tip of a scalpel over the sore gum and down to the tooth. In an hour the baby took a full meal from its bottle and swung its legs with evident relief and enjoyment. It is not advisable, however, to puncture gums unless the tooth is unmistakably nearly through the gum, for if the pain is due to the passage through the dental sac the gum heals over the deeper cut and no good results. No one but a doctor who has watched the child should lance the gum.

**Milk or Temporary Teeth.**—The time of cutting the milk-teeth is generally as follows.

The two lower central incisors, 6–9 months.

The four upper incisors, 8–12 months.

The two lateral lower incisors and the four anterior molars, 12–15 months.



The four canine or eye-teeth, 18–24 months.

The four back molars, 24–30 months.

The time of teeth cutting varies with different children, and some babies are born with one or two incisor teeth already cut.

The actual number of teeth may also vary; thus I know members of three generations of a family with only two upper incisor teeth.

**Permanent Teeth** appear as a rule about the following dates.

First molars, 6 years.

Incisors, 7–8 years.

Bicuspid, 9–10 years.

Eye-teeth, 12–14 years.

Second molars, 12–15 years.

Third molars, or wisdom-teeth, 17–25 years.

**The Teeth of Children.**—The consensus of opinion is that the teeth of the present and rising generations are not as good as those of previous generations, and the subject is one of serious concern to medical officers of health and school doctors in a collective sense, and ought to be to every medical man and parent individually. The cause of so much decay in teeth has been much debated, and the very white flour of modern mills has had it laid

to its charge. It has been argued that the bread made from such "pure" flour is deficient in salts and phosphates, and that the teeth of previous generations were better because more wholemeal bread, and a white bread containing more of the proteins and salts which are removed by modern milling, were eaten. Hence the outcry about "standard" bread. The subject of bread has been referred to elsewhere and it need only be added that even if modern white flour is one cause of early decay there is another and more potent possibility, namely, the enormous increase of sweetmeat eating, especially of chocolates and caramels, which has characterized the past quarter of a century. Dentists seem to be almost unanimous about the bad effect that the indiscriminate eating of sweetmeats has on the teeth, especially of low-class sweetmeats, and some have even gone as far as to advise the State regulation of sweetmeat production. It is asserted, as the outcome of experimental investigation, that glucose, the sugar which is so largely used in sweetmeat making, lying in contact with teeth greatly encourages the growth of decay-producing micro-organisms. Cane sugar, such as is present in lump sugar and barley sugar, is much less

harmful, or even innocuous, and sweets which are acid are also unobjectionable.

If a child has bad teeth in which sweet material can lodge, the decay-producing germs will have a good opportunity of multiplying and doing further damage ; but if the teeth be good the saliva will dissolve and wash away the sugar.

**The Beneficial Effect which the Proper Chewing of Food has on the Teeth.**—Children, from the earliest molar teeth age, should be encouraged to chew their food well, not only on account of the better digestion which follows thorough mastication and of the effect which the latter process has on naturally allaying appetite and prevention of over eating, but also because of the effect which chewing has on the development of the jaws and of the permanent teeth. Dentists maintain that the good effect which the proper use of the jaws with the milk teeth has on the second dentition is much greater and more important than is generally supposed. If a child with its first teeth has its food minced too much there is a risk of the unused jaw not developing well and of bringing the second teeth too close together. Therefore it is highly necessary to encourage little children to chew well. Crusts of

bread, toast, stale bread and biscuits call for more use of the teeth than new, soft bread. When meat is given there is more use for the grinding teeth, and it is a better plan to give the meat in very thinly-cut, small pieces which can be picked up with a fork and chewed by young children under proper supervision. The objection to mincing the meat and mixing it with potatoes and gravy is that the child swallows spoonful after spoonful with the minimum of chewing. Chewing food, especially crusts of bread, also helps to clean the teeth and prevent the formation on them of tartar and the white greasy deposit, both of which encourage early decay by hindering cleaning.

It is therefore the greatest mistake to have the food for children with grinding teeth all minced or softened.

The danger of giving crusts of bread or toast to young children of twelve months or so is that any hard, even small, piece is apt to stick in the throat and cause coughing or even spasm of the larynx.

An infant of nine or ten months may be kept happy and quiet during the best part of the nursery meal if it be seated in a high chair at the table and



given crumbs of soft bread or sponge cake to pick up and eat. The crumbs should be spread on the tablecloth, and all plates, knives, etc., put out of its reach. Crumbs of such kind are readily softened by the saliva with the aid of the instinctive movements of mastication which the infant even with only front teeth makes. It is never too early to teach a child to chew.

**Care of Teeth.**—The teeth should be brushed night and morning, and the common custom is for this to be done when dressing for breakfast and on going to bed at night. It would be a better plan if the morning brushing were done after breakfast so as to remove that food which will otherwise remain on the teeth after the meal. At bedtime the brushing should be after supper has been eaten, whereas with young children the former generally precedes supper and food, and often a sweet is given last thing. A simple chalk powder is the best. This helps to keep the front of the teeth clean and free from tartar and greasy material.

A soft brush without powder should be used when the front teeth are cut.

When extraction is necessary, some form of anæst-

thesia should be used so that the child need not be unnecessarily hurt or frightened.

**Visits to the Dentist** should be paid after the first molar teeth have been cut, because the longer these are kept in good and workable condition in the mouth the better is the child able to chew its food, and consequently the better will its secondary teeth develop. If the teeth are all right the dentist will say so ; if there is any decay beginning he will arrest it as early as possible. After the permanent teeth have appeared the visits are equally important, for the earlier any tendency to decay is seen, the easier is it to have the decay stopped. It is also important for the second teeth to make their way through the jaw in their proper place and without overcrowding, and for this it may be necessary to have one or more of the first set removed.

Overcrowding of the teeth in itself is a common cause of decay.

*The first four of the permanent teeth (molars)* which appear at six years must be carefully watched. As they erupt behind, and without displacing any of the milk teeth, they are liable to be mistaken by mothers for milk teeth and decay in them is not thought anything of. They actually do decay

rather easily, and unless they be treated at once by a dentist may get so bad that they have to be taken out. The child then loses in its early years one or more teeth which ought to last throughout life.

A decaying molar tooth in any mouth may cause pain which is referred by a child or adult to the ear, and it is not uncommon to find that a child is supposed to suffer from earache when, really, it is a tooth which is going wrong—it may be in a place out of sight to the parent's eye. Therefore, when a child complains of pains coming and going in the ear the teeth must be thought of as a cause and a visit to the dentist made. If he passes the teeth as sound then there must be some cause in the ear for the pain.

**Earache.**—A child who has any earache which is not caused by a tooth should have its ears examined at once. A simple catarrh may be checked in an early stage, without doing any permanent damage, but if it be neglected and an abscess forms and bursts, the drum of the ear may be irretrievably damaged. [*See Ears.*]

## CHAPTER XIX

### The Sense Organs

**Sight—Taste—Hearing—Speech—Deafness—Getting  
Water into Ears—Intelligence—Tongue-tie.**

**Sight.**—From the very first days of its life a baby can tell the difference between light and darkness, and will not like to be in front of a bright light. Its pupils will contract when light is thrown on them. It will not notice things or people and follow them with its eyes much before the middle or end of the second month. The mother, especially if she be feeding the baby herself, will probably be recognized and identified by the baby before other persons will, and this may be about the middle or end of the third month. After this the power of sight is used more and more and the baby notices things and persons quite readily about the fifth month.

Care must be taken not to expose the baby to



a bright light, and out of doors not to let the sun fall on its eyes, whether it be asleep or awake.

**Taste.**—A baby from the very beginning of its life can taste, and it is therefore necessary to see that its food is palatable.

**Hearing.**—For the first few days of life hearing is not acute, if it be present at all, and a baby will sleep through a good deal of noise. The hearing, however, soon becomes acute and an infant will start at loud noises. It will sleep through more noise if it is well and comfortable, but will wake easily if unwell, especially with digestive disturbances. By the end of the second or third months it will turn its head in the direction of a noise and to voices when about three or four months of age. But these dates vary with different children.

All babies are specially sensitive to noises, and they should be protected against them as much as possible.

**Speech.**—The time at which speech develops varies very much, and this can be seen in the different members of one family. Girls begin to talk two or three months earlier than boys. From the fourth or fifth month, or even before, babies will begin to crow and to make noises which give them

much pleasure. The first noises are generally on one note, often a prolonged ah-ah. Then as they get expert in this accomplishment they begin to develop another note as well, and about the sixth month they may be using a two-syllabled two-tone note such as ah-ow or ah-ee. But, as a rule, it will not be before the end of the first year that the baby can use words or sounds with a definite meaning such as ta-ta or da-da.

For a baby to pick up sounds which its elders say to it, normal hearing is necessary, and if it has not mastered or used any of the ordinary baby language by the middle of the second year the state of its organs of hearing must be carefully inquired into. If a baby, then, does not turn its head when a distinct sound, such as the clapping of hands, is made or its name is called by some one who, unknown to it, is behind its back, it is probably deaf. Before this time, however, it ought to have been noticed that the baby has not turned to look at any one who comes into a room without being seen and calls or speaks to it. In testing the hearing it is important not to jar the floor on which the baby may be sitting or to cause a current of air to strike its head or allow the vibrations of the voice

to be felt by it, as for instance when a mother speaks to a baby on her knee.

**Deafness.**—It is of the greatest importance to recognize, as early as possible, any abnormality in hearing, for if the child is really deaf or has no hearing for ordinary voice sounds it must be taught as soon as possible, that is from the third year at the latest, to develop its powers of speech through its eyes and other senses, that is by lip-reading. If a deaf child is taken in hand when quite young it is extraordinary how well it can be taught to read the speech of others and to produce very intelligible speech of its own. If deaf children are allowed to go on until they are six years or older before being taught to speak by the oral method, they will either never progress well in speech, or, more probably, will have to use sign language entirely.

A deaf child should also be talked to, from the very first recognition of the deafness, as if it could hear, but it must be able to see the lips of the speaker properly.

**Acquired Deafness.**—When a child which has been born with proper hearing and has acquired speech loses its power of hearing through illness (scarlet fever most commonly, mumps occasionally),



it should be taught lip reading *at once*, before it forgets the way to produce sounds which it learnt with its ears. It will very soon, especially in the earlier years of life, forget its speech acquired by hearing, and it will have to depend on its eyes to read from the lips the speech of others. Training in lip reading and in the production of a good tone of speech is helped immensely by the child's memory of sound, so the sooner it is taught lip reading after losing its hearing the better it will be for the child.

**Water Getting into Ears.**—The danger of getting water into children's ears during the daily washings or in bathing must be guarded against. Water should not be dashed into the ears in ordinary washing, but the dirt and wax should be removed with the sponge or the end of a towel in younger children, and in those who wash themselves, with the finger, wet and soaped. When bathing in the sea or swimming baths there is a great danger of water getting into and remaining in the ears during ducking and diving. Water which gets into an ear in this way is hard to dislodge, and it causes temporary deafness in that ear. If this be not attended to inflammation and abscess formation leading to



permanent injury to the hearing apparatus are very liable to result. It is very difficult to keep water out of some ears in diving, but a plug of cotton wool may be tried, and if so, it must be large enough to be easily removed afterwards, if, as often happens, it does not come out in the water. A mackintosh bathing cap pulled well down over the ears may also be tried.

**Intelligence.**—A baby, for some months before it can use definite and intelligible sounds, can understand a good deal of what is said to it and is very quick to learn the differences of expression in face or voice of its mother or nurse. It can be charmed to a smile by playful attention as easily as it can be frowned or scolded to a tear.

**Tongue-tie.**—Mothers not uncommonly think that the baby's tongue is tied, that is that it cannot be protruded or moved about as much as it ought. The suspicion of this may arise in breast feeding age by the baby not taking its food properly, or by its beginning to talk very late. Probably the nipple is at fault in the first instance and in the latter nothing is wrong, many children beginning to talk later than others. When the tongue actually is tied the tip of it can hardly be protruded from

the mouth and the web of the tongue is found to be very short. This will then have to be snipped or torn with a probe, but this very mild operation must be done under proper observation, as sometimes an abnormally large blood vessel is severed and a fair amount of bleeding results. It is, however, very uncommon to find that a tongue is really "tied."

## CHAPTER XX

### Bad Habits in Children—Worms

Teeth - grinding — Nail - biting — Nose - picking — Dirt-eating—Worms.

**Teeth-grinding.**—Some infants when they get their upper and lower cutting teeth frequently rub them together with slight side movements of the jaws. The noise made is a very high-pitched “gritty” sound, and the child seems to be rather proud of its acquirement. It is merely a habit, means nothing wrong, and will soon be forgotten. These children do not grind the teeth at night. This latter habit generally occurs in older children with more teeth, and is popularly looked upon as being caused by worms. Whenever it is noticed, the motions should be carefully inspected, especially after a dose of an aperient has been given, and if any form of worms be present proper treatment must be carried out. Often, however, no worms

are to be found, and then it is most probable that the child has some form of indigestion, likely as not due to improper feeding. This must be corrected and the teeth-grinding will probably cease. Sometimes also it is caused by the cutting of fresh teeth. It must, however, be remembered that the unpleasant habit may be due to some more serious trouble, such as ear or brain disease, but in such cases the child will show other signs of illness.

**Nail-biting** and **Nose-picking** are bad habits which have often to be dealt with in nursery children. Both occur commonly in nervous children, but may appear where there is no evidence of "nerves" and simply be a habit. Nose-picking is often looked upon by mothers and nurses as an indication of worms, but often without any reason. Worms, however, may be present in these children and if so they must be got rid of. If the nose-picking ceases then, so much the better.

Both are habits which generally are grown out of, especially the nose-picking, but nail-biting often lasts beyond school life. The only way to stop nose-picking is to correct the habit whenever it is seen, and this requires much patience.

Nail-biting may be cured sometimes by painting



the fingers with bitter aloes, but a child may rub this off and go on with the biting. It may also be cured by the moral effect of making the child wear woollen gloves in the house, which are a constant reminder of the habit and are also unpleasant to bite. Some mothers put mustard powder into the fingers of the gloves.

The present of a pair of patent nail-clippers, with a taking spring mechanism, has possibilities.

**Dirt-eating**, in which a child will eat dirt, sand, mortar hair, etc., is sometimes met with from the second year of life onwards. It generally occurs in children whose digestions are out of order and who have unpleasant feelings of emptiness or hunger. Such children must be carefully watched to prevent their bad habit, and their digestion and general bodily health must be attended to. The possibility of worms irritating them must be thought of.

**Worms.**—There are two kinds of intestinal worms likely to be met with in children. When present they require treatment by special medicines.

1. The *Thread-worm*, which, as its name suggests, is very thin, is white and about quarter of an inch long with tapering ends. There will generally

be several in a motion, especially after an aperient has been given.

2. *Round worms*, which are very like garden worms in form, vary from a couple to several inches in length. They occur in varying numbers, and I relieved one child of about three dozen in two days.

The *Tape-worm* may be occasionally found in older children. As its name implies, it is like a long piece of tape—sometimes several feet long—divided up into segments about half to one inch long and one-third to half wide. Several of these segments will be found in a motion and they are unmistakable.

## CHAPTER XXI

# Holidays

### Change of Air—Visits to the Seaside.

**Change of Air.**—Young children are often much more affected by a change of air, especially to that of the seaside, than older ones. Sea air, especially in exposed and bracing places, very often upsets the digestion, and a stomach attack or diarrhœa is the result. A chill from bathing or too much paddling in cool weather will make matters much worse and the first week of a holiday pulls the child down instead of bracing it up.

Again, most bracing seaside places are rather devoid of shade, and in hot weather there is considerable danger of illness arising from undue exposure to the hot sun.

At some bracing places there is more or less of

a constant steady breeze or draught along or across the sands and the danger arises of young children of three, four or five years of age who get hot in digging sitting down in the draught and catching cold. Town children who are not used to being out of doors all day are the most likely to be affected in this way.

*Sea bathing and wading.* It is a popular idea that salt water is altogether harmless and healthful, and the sooner children get into it, either paddling or bathing, the better. Therefore frequently they are allowed to be in and out of it more or less the whole day long, even from the very first day of their arrival at their holiday place. But it certainly is a fact that many children are made ill by such a custom, and it is much better to wait a day or so to allow of acclimatization ; and even then paddling and bathing should only be allowed with care for a few days. When bathing, children up to eight or ten should not be allowed to stay in long, especially when there is no warm sunshine, and after they come out it is a good plan to give them a drink of hot cocoa and milk and to make them run about or go for a walk afterwards. If they do not get warm for some time after a bathe in



spite of these precautions the time in the water must be limited very considerably or bathing not allowed at all.

The cold bath method of hardening young children, approved by some mothers and nurses, is more often carried out at the seaside than at home. Holiday makers frequently see and hear a young child being carried into the sea and dipped in spite of terrified screaming on its part, all done in the fond belief that it is good for the child—whereas the result is exactly opposite. The child is terrified of the water, its holiday is spoiled, and probably it will never like the sea.

The proper way to teach a young child to like the sea is to let it “wade” in a bathing costume in warm weather. It will paddle about, and sit down and splash with great enjoyment and by degrees get bold enough to bathe properly and become a lover of the sea. If the child will let a grown-up lead it into deeper water well and good, but it should never be taken in, and especially be ducked, unwillingly.

In hot weather the head should be wetted, but the child will do this itself with its hands sufficiently well, if told to.

**Change of air and of milk** are very liable to affect young babies, and some doctors think it unwise to take them away from home for the first few months of life, especially to a place where the air is considerably different to that to which they have been accustomed. The air of a bracing seaside place will probably disarrange the digestion of most town babies.

The change in the character of the milk, which is often much better in the country or at the seaside than in towns, with or without much atmospheric change, may also make bottle feeding difficult. The bottles may be made in the same way that they are at home and yet they may be considerably different in composition to those the baby has been used to, and it takes very little to disarrange the sensitive infantile stomach. The error will probably be on the side of over-richness, and if the bottles are not agreeing they should be made weaker than usual until the new milk has become accustomed to.

## CHAPTER XXII

# Spreading Infection

### Children's Parties—School—Kissing.

**Children's parties** are one of the commonest means for spreading infectious disease, especially chicken-pox and measles, which are very contagious in their early stages when no rash is out. Therefore if any child is the least bit out of sorts with a cold in the head or has any spots or suggestions of a rash it should on no account be allowed to go to a party, nor should a party be held in its own house.

Running colds are very infectious and often affect all the members of a household. If one child starts with a cold it should be isolated if possible, but this is not often practicable. The other children should have their handkerchiefs scented with eucalyptus oil, as this has apparently some deterrent effect.

Diarrhœa in young children in the warm months

is also very contagious, and all towels used for a child affected by it should be kept for that one child and not used by others.

**Day schools** are also very often responsible for spreading infectious diseases, and parents should be much more careful than they often are at present about keeping any child who is ailing at home. This is especially important when any infectious diseases are known to be about. No child with a heavy or running cold should be allowed to go to school.

Promiscuous kissing should be discouraged, as many an infectious illness is passed on by its means.



## CHAPTER XXIII

### School

#### Kindergarten—Ordinary School—Overwork.

**School.**—Children are ready for kindergarten school about the age of five years. This form of school is really methodised play, and its object is to interest the child in the use of its fingers, to develop its receptive and imitative faculties, and to prepare it for school proper. After twelve months or so of this work the letters are generally taught and elementary reading and writing. Most children are very fond of this kindergarten work. At seven they are generally ready to proceed to ordinary school work.

Parents should watch the progress of their older children at school and see that they are enjoying their work and that their energies are not overtaxed. With the average child things will go on all right; but some children may find lessons too hard. These

are generally children who are unusually advanced for their years and who are anxious to keep up with their older schoolfellows, and they are often of a high-strung, nervous temperament. If a child of this nature, known to be keen on its work, eats badly, dreams or is restless in its sleep, and is underweight, it is time to interfere, and a holiday for from three to six months, to throw it back to its proper level in the school will do much good. The continuance of nerve-straining work at an early age may seriously harm the health in later life.

In less marked cases mothers can do a great deal of good by not letting their children work too much at lessons. They should see that they have a proper amount of play out of doors in fine weather, and hobbies or light reading to turn to in the house.

## CHAPTER XXIV

### First Aid in the Nursery

ACCIDENTS are very liable to occur in the best managed or most orderly of nurseries, but fortunately providence looks after children, and the injuries are often much less serious than they would be in older people from corresponding causes. Whenever anything more than a trivial bump, cut or slight burn has happened, and especially if any poisonous thing has been swallowed, the doctor should be sent for at once ; but, even with the convenience of telephones, it often happens that his visit cannot be paid for an hour or so after he has been asked for, especially in the country, and in this time much good can be done by the mother or nurse by a knowledge of a few simple temporary measures such as are given in the following paragraphs.

It must be thoroughly understood that the measures suggested are only temporary, and further

steps must be taken by doctors to complete a cure.

**Poisons.**—If a child has taken or been given by mistake any poisonous thing, the stomach must be emptied of its contents *as soon as possible*, and before there is time for much, if any, of the poison to be absorbed into the circulation. When the poison is an acid it must be neutralized in the way described below, and an emetic should not, as a rule, be given.

The most likely causes of poisoning are from liniments or lotions being drunk or given in mistake for medicine, and also from eating poisonous seeds or fruits out of doors. Of the latter the commonest sources of danger are laburnum (any part of the tree), yew berries or leaves, belladonna or the deadly nightshade and foxglove which grow wild, and poisonous fungi mistaken for mushrooms.

*The best emetic* likely to be always at hand is mustard powder, and of this a dessertspoonful in half a tumblerful of water should be given to older children. They must then take more tepid water.

*Common salt* in strong solution, a tablespoonful in half a tumblerful of water, is also a very good emetic. It also must be followed by more tepid water.



*Ipecacuanha* wine is slow and unreliable as an emetic to get rid of poisons. Teaspoonful doses can be given to young children with the tepid water afterwards. The powdered drug (as much as will go on a shilling, i.e., 10 grains) is more reliable, but very young children may not be able to swallow it.

*The action of any emetic is helped greatly* by giving copious draughts of tepid water, but if vomiting does not result in a minute or two the back of the throat should be tickled by a feather, the mother's fingers, or a camel's hair brush (firmly fixed on a handle of course) being pushed well down the throat.

If a child is in a state of collapse with cold, clammy skin as the result of the poison, it must be wrapped in flannel blankets and hot bottles placed against its feet and body outside the innermost blanket.

**Precautions against Poisoning.**—All lotions or medicines for external application must be kept in green or blue glass fluted bottles, and it is a further safeguard, to prevent hasty misuse, to have the corks tied in with a piece of tape. Even the best of nurses or mothers might mistake a handy lotion for an ordinary medicine bottle in the dark or when awakened from sleep.

All lotion bottles should also be kept entirely separate from internal medicine bottles.

When out of doors children should be taught not to put anything into their mouths or to eat anything, especially berries, unless the absolute harmlessness of the article in question is quite certain, and the mother says they can eat it.

### Some of the Commoner Poisons

*Mineral Acids.*—Sulphuric acid (vitriol), nitric acid (aqua-fortis), hydrochloric acid (spirits of salt). If any of these be swallowed *an emetic should not be given*, but something to neutralize their acidity. The best and most handy substances for this are calcined magnesia, chalk (or whitening) and bicarbonate of soda or potash in order of value. As much as possible of these quite harmless substances should be got into the child. They may be given as powder and washed down by copious draughts of water, which will help to dilute the acid. Demulcent drinks, such as white of egg in water or milk, may also be given to ease any burning of the mouth or throat.

*Carbolic Acid* is not an acid in the sense that it can be neutralized by the substances recommended for

use in poisoning with other acids. Plenty of water should be given at once, and an emetic should be tried if only a weak solution of the acid has been taken. White of eggs and milk may be given, and magnesium sulphate or Epsom salts (a tablespoonful dissolved in water) to combine with the acid and make it harmless. Epsom salts are plentiful in household aperient waters (Hunyadi Janos, Apenta, Friedrichshall, Rubinat). Half a small teacupful may be given.

*Oxalic Acid or Salts of Lemon.*—Whitening, chalk, or calcined magnesia may be given. Bicarbonate of soda or potash *must not be given*, as they make matters worse.

*Lotions or Liniments* are very poisonous, containing as they often do belladonna, opium, aconite, chloroform, ammonia and turpentine. Camphorated oil is also poisonous. An emetic must be given at once and made to act. Then if any strong, stewed tea—that is tea which has stood some minutes—be handy, this should be given, as the tannin which it contains helps to neutralize the activity of the belladonna, opium and aconite.

If *ammonia* has been swallowed, weak vinegar and water should be given to neutralize it.



If *hard foreign bodies* such as pins, needles, coins, buttons be swallowed, no emetic should be given. The doctor will give directions for their treatment, which is not so urgent.

**Fish Bones in the Throat.**—These will generally be small and will be movable by the child swallowing a good mouthful of porridge or some bread, which is better than a drink. If this does not remove the bone, the doctor will have to see to it.

**Choking.**—A child “chokes” when food has gone the “wrong way,” that is, has got into the opening of the windpipe instead of passing down the gullet. With this choking the breathing is interfered with or stopped altogether, and there may be crowing sounds due to obstruction at the orifice of the air-way. If not relieved suffocation may occur before there is time to summon any doctor. When this choking occurs the child must be held upside down, *head and body* downwards, so that the foreign body may fall out of the air passages. If young, the child must be held by the ankles; if too old for this, then by hanging the body from the hips over the end of a table. When in this position the back between the shoulder blades must be thumped with a certain degree of force—more



in older than in younger children. If the obstructing mass is larger and has not passed completely into the windpipe, it may be possible for the mother to hook it forwards with her finger, for the child's mouth is not deep ; or it may be possible to push the mass further on into the gullet which is behind the windpipe, and then it can be swallowed or coughed up.

**Crumbs** going the wrong way will excite vigorous coughing, which will probably dislodge the irritating body. It is not any good to thump a child on the back whilst it is the right way up in such a case, as the jerk may send the body down into the lungs. If any thumping is to be done, it should only be after the child has been completely turned with its head and body downwards.

**Foreign bodies in the nose** should be left for the doctor, unless the effect of a little pepper to produce sneezing be tried. If the body is a small one a sneeze may bring it out.

**A foreign body in the ear** should not be poked at, for it is almost certain to be pushed further in. If it is a small one, turning the child sideways so that the affected ear is downwards may cause the body to fall out.

If an *insect* gets into an ear the head should be placed with the affected ear upwards, and this should then have warmed liquefied oil of paraffin, or, if this is not handy, olive or sweet oil poured in and allowed to stay in. This will either drive out the insect or kill it, and the doctor can then remove it by syringing.

**Dirt in the eyes** may be very painful and the sooner it is removed the better. Every mother should ask her doctor to teach her how to turn an eyelid. It is quite a simple and painless process, and specks of dirt can be easily removed from the eye in this way. If no dirt can be seen, a drop of castor oil put into the eye whilst the eyelids are pulled forwards so that the oil can get under them may relieve considerably ; or the effect of a few drops of water in the eye may be tried, pulling the eyelids well apart, and getting the child to roll the eye round.

**Wasp and Bee Stings.**—A good thing to do for insect stings or bites is to make the child if old enough immediately squeeze and suck the spot vigorously, or for the mother to do it herself. By this means some of the poison may be prevented from getting into the circulation and the bad effects of the sting diminished.

## Injuries

*Burns or Scalds.*—Pour Carron oil or chalk liniment at once freely over the injury, wrap up in soft old linen first, then in cotton wool and, if extensive, rest the limb on a pillow until the doctor comes. Do not wash the sore. If the burn is extensive and the child is collapsed put flannel blankets round it and hot-water bottles outside one of these.

*Injured or broken limbs or sprained joints* should be handled very gently and fixed in an easy position until the doctor comes. If the hand, arm or shoulder be injured the arm should be put in a sling and kept close to the body, the hand lying towards the other shoulder of the child. If the leg be injured it should be placed on a soft pillow which can be tied more closely to it by bandages and the child must lie down.

*Cuts and Wounds.*—Some bleeding will do good, as the flow of blood tends to wash out any dirt or poisonous material that may have got into the wound. For cuts from rusty or dirty objects or wounds made dirty by falling on the ground, put one ounce (or two tablespoonfuls) of pure carbolic acid, or some other suitable antiseptic properly di-

luted, in a pint of warm water (from the hot-water tap will do, though that from a kettle is better), and wash the wound well with this, using a square of lint dipped in the lotion. To stop the bleeding afterwards wring out well a piece of lint four inches square or so in the lotion, and fold this twice, making a *firm* pad about two inches square. Put this over the wound and bandage with firm pressure in position. Do not tie anything tightly round the limb above or below the seat of the injury for slighter wounds.

If the wound is a bad one and the blood is being pumped out in gushes an artery has probably been cut through and an attempt should be made to put pressure on the main artery of the limb. In the upper arm this runs down between the bone and the inner side of the arm ; in the thigh down the inner front portion. Make a firm pad of lint or a handkerchief about two inches square and at least one inch thick and place this *above the cut* over the artery, which can generally be felt to be throbbing. Tie it firmly in position with a bandage or a handkerchief. If this is rightly done the bleeding will practically cease. It may be necessary to apply this pressure with the hand and fingers, or to put in a



key or stick and twist the bandage round until the bleeding ceases.

On no account close up or cover over a cut or raw surface with sticking plaster ; nor should bleeding be stopped by cobwebs, which are always covered with dirt.

**Fits or Convulsions.**—Loosen all clothing about the neck and have a small roll of bandage or a cork to put between the teeth to prevent the tongue being bitten. Let the child lie down without a pillow, and if there is much secretion in the mouth turn the face to one side to prevent this from entering the windpipe. It may help matters to put a small child in a hot bath with a cold cloth on its head ; or a bigger child in bed with warm bottles about it but not touching any bare skin, and the cold cloth on its head.

**Artificial Respiration.** — Every person old enough to understand and be able to carry out the instructions should know how to do artificial respiration, as children may be taken out of the water in a more or less drowned state in places where a doctor's services are not easy to get soon.

First of all the child should be hung, if possible, by the heels, *head and body downwards*, to let water

run out of the lungs. It should then be laid on its back, with a pillow or firm pad under its shoulders, and artificial respiration carried out. This is quite simple. Grasp the arms of the child *above the elbows*, then move them away from its side towards its head until the elbows nearly meet, that is, as far as they will go without undue force. Do this slowly, holding the arms above the head whilst you count one, two, three deliberately. This fills the chest with air. Then reverse the movement, pressing the arms forcibly against ribs, squeezing out the air from the chest, and holding them there whilst you count to three again. Do only about fifteen complete movements each minute. If possible put a warm blanket round the body and chest and put hot bottles outside this.

*Keep the tongue pulled forward* by holding it with a handkerchief, and don't be afraid of pinching it. This prevents the tongue from falling back and blocking the entrance to the lungs.

Help the circulation by rubbing the legs under the blankets from below upwards.

Artificial respiration should be persisted in for at least one or two hours by relays of workers.

If consciousness returns give some brandy and

hot water or sal volatile and water as soon as it can be swallowed.

A rubber bottle filled with very hot (not boiling) water may with advantage be placed on the blanket over the heart, that is, over the lower part of the middle and left side of the chest. This stimulates the heart.

In addition to its uses after immersion artificial respiration may be necessary after poisoning with opium or morphia after the stomach has been thoroughly emptied and stewed tea given.

### First Aid Box

At my suggestion, Messrs. James Woolley, Sons & Co., Ltd., of Manchester, have put together a very compact "First Aid Box" which ought to be useful in every nursery. It contains lint, cotton wool, roller bandages, three-cornered bandage, strapping plaster, Carron oil, antiseptic for washing wounds, powdered ipecacuanha (emetic), pair of nursing scissors and safety pins.

There is also a space left for clean old linen and silk which is advisable to have always at hand. The price is 5s. in a strong cardboard box.

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